Managing the Popularity of Streams in the Twitch.tv Gatekeeping Network

Taha Sabia

Faculty of Communication, Media and Theatre

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Abstract

In a digital age where user generated content is spreading rapidly on the internet and its use and consumption are becoming more and more popular, information control becomes harder to exercise by institutions on social networks where the information circulation is growing rapidly. The influence of power evolves from a unidirectional exercise of power, to a negotiated power in a multidirectional gatekeeping network. Gatekeepers in these networks hold different power positions based on how they each affect the flow of information inside a network. On Twitch.tv, the information is the streams broadcasted on the social platform, and their circulation is reflected by the popularity of these streams and how large of an audience they draw. This study explores how the gatekeepers influence the popularity of the live streams in Twitch. The gatekeepers present in the Twitch gatekeeping network each affect the popularity of the streams differently resulting in a changing power positions in the network.

In the gatekeeping network theory model established by Karine Barzilai-Nahon, thirteen gatekeeping bases were identified: Selection, Addition, Withholding, Display, Channeling, Shaping, Manipulation, Repetition, Timing, Localization, Integration, Disregard, and Deletion. These bases are the processes by which the gatekeepers affect the circulation of information in a network. This study identifies the gatekeepers who constitute the Twitch network (namely game publishers, Twitch, streamers, and the audience), then seeks to identify the gatekeeping bases used by each gatekeeper to affect the popularity of the streams on Twitch. This process will help establish the relative power of each gatekeeper in comparison to the others. To answer these questions, mixed methods were used combining a netnography and a questionnaire. To identify which bases are used by the game publishers, Twitch, and the streamers, netnography in the form of participant observation was used. A selection of screenshots and a collection of web articles

were collected and analyzed to identify the bases used by these respective gatekeepers. This analysis was conducted using manual qualitative coding based on a large selection of screenshots captured during the netnography. An immersion of the researcher in the platform seeks to establish the processes used by these gatekeepers and how they reflect on the popularity of the streams. To identify which bases are used by the audience, a questionnaire was used to generate insights about how the audience chooses streams to watch and how it contributes to spreading them online and thus helping to popularize them.

Finally, a discussion of the results shows how the gatekeeping network of Twitch is a dynamic one where the popularity of the streams is negotiated between the different gatekeepers not only confirming the change in theory from a unilateral model to a multidirectional model, but also hinting to an increasing influence of the active audience over this popularity. The popularity of the streams is then the result of a participatory effort by all the stakeholders that results in the popularity of the streams and the Twitch platform in which the audience plays a central role. The implications provide a couple of first few hints to how Twitch can make more engaging tools to encourage audience participation in the live streams, while providing better visual content to the viewers.

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Introduction

This thesis explores the Twitch gatekeeping network to build insights about how gatekeeping is exercised on Twitch, and how each gatekeeper can affect the popularity of the live streams as the viewers become the targeted audience everyone is seeking to attract. This research seeks to answer the question of how do gatekeepers influence the popularity of the live streams on Twitch.tv. This study started with a personal interest in the growing phenomenon of playing and sharing video games online. Video games represent a major source of entertainment worldwide and have become a growing source of entertainment on all digital platforms: computers, consoles, and mobile devices. However, with the growth of services such as Internet Protocol TV (Scholz, 2011), streaming one's gameplay live, or uploading it recorded online, became more and more popular through digital services like YouTube or Twitch. These digital platforms revolutionized how games are played and more importantly how they are spectated, giving birth to "streamers" who became part of the industry as networked individuals who stream and play for an audience. By offering the possibility for players to share their gameplay and the viewers to watch, interact, and share, a new type of entertainment evolving around video games is born: spectatorship. Spectatorship expands the audience of video games not only to the players themselves, but start targeting the viewers who spectate the games. In this context, Twitch.tv emerged as "the world's leading social video platform and community for gamers, video game culture, and the creative arts" (Twitch, 2017).

However, Twitch represents a social media network in which several stakeholders are involved and interacting with each other with the objective of drawing and retaining audiences to watch the live broadcasts, called streams, and interact with the players broadcasting their live play, called streamers, and thus increasing the streams popularity. This increasing popularity

draws the attention of advertisers, sponsors, major game publishing studios, and investors. Hence, the network created by Twitch is drawing several stakeholders because of the audience it generates. These stakeholders include the game publishers who release and update the games, the streamers who play the games, the viewers who watch, comment, and share their spectator experiences, and Twitch as the digital platform itself where these interactions occur.

The Twitch network is a complex gatekeeping network where all the previously mentioned stakeholders, called gatekeepers in the theoretical framework, engage in dynamics with the objective of drawing audiences which reflects on the popularity and the view counts of the live channels in Twitch. The outcomes of this research, such as defining what gatekeeping bases are used by each stakeholder and how they affect other stakeholders, provide the game publishers, the streamers, and the viewers with insights onto how the popularity of a channel is built and what affects it. This would be useful insights as to what elements are important to draw large audiences especially by knowing what the viewers are seeking and how they decide to watch a stream and share it. The implications establish the interactions between the gatekeepers and provide a framework that can serve as a basis for improving the viewership and engagement tools of Twitch, but also brings new contributions to the theory used under the form of new gatekeeping bases, while challenging a major assumption of the networked gatekeeping theory.

The research had to first identify the gatekeepers involved in the Twitch network, then set up a theoretical framework that fits this network, and finally establish the role of each gatekeeper in how it affects the popularity of the live streams in Twitch. The theoretical framework relies on the multidirectional networked gatekeeping theory introduced by Chin-Fook and Simons (2011), and a list of gatekeeping bases elaborated by Barzilai-Nahon (2008). This combination fits best this research since it set ups a network that best represents the Twitch network, while the

gatekeeping bases list enables us to identify what actions are exercised by each gatekeeper in the network to influence the media streams available on Twitch.

A combination of netnography, an ethnographic approach to online network and digital communities, under the form of participant observation while using Twitch and the use of a survey relying on an online questionnaire were used to approach the study. This combination was selected as it is the best way to answer the research question as to how do gatekeepers influence the popularity of live streams in Twitch. The netnography was used to establish the gatekeeping methods used by the institutions, game publishers and Twitch, as well as the streamers to increase the popularity of certain streams. The survey however, was used to address the viewers of these streams to establish if they were passive or active in their watching behavior and if they were exercising gatekeeping methods as well while watching the streams.

The networked gatekeeping theory used as a framework established a list of gatekeeping bases representing the processes by which the gatekeepers affect the live streams' popularity. The data collected was then analyzed with a hand qualitative coding process using the previously mentioned gatekeeping bases as codes to identify the gatekeeping bases used by each gatekeeper and how they affect the streams' popularity. Using the Twitch platform as part of the netnography allowed the capture of several screenshots and notes that enables us to identify the gatekeeping bases used in practice by the gatekeepers in Twitch.tv. Then a survey of Twitch viewers (N = 201) drew conclusions over how they consumed and distributed the live streams in Twitch, and how they were affected by the other gatekeepers as well as an audience.

This fills an academic gap as no previous research approached Twitch as a network, rather most of the academic works focused on the spectatorship phenomenon and the motives behind watching live streams on Twitch. It also provides a practical overview of the network in

defining how active the audience is in consuming and spreading the online media content they consume on Twitch.

Upon analyzing the findings, it was concluded that the audience plays a central role in the network as they represent the target of all stakeholders because the popularity of a live stream is defined by the size of its audience. Hence, this study shows the complexity of the Twitch gatekeeping network and highlights how each gatekeeper tries to reach out to the audience; however, as the audience is proven to play an active role in the network, both in consumption and distribution, the streams' popularity is the result of the interactions of all gatekeepers rather than the influence of them independently of one another.

The results confirmed the multilinearity of the gatekeeping network model established by the theory, while challenging some of its assumptions and tried to add new gatekeeping bases that were created in this specific case by the gatekeepers such as: participation, recommendation, and exclusive early access content. For the practice however, the findings established a first glimpse at the behavior of the viewers and what draws them to a specific stream (its popularity), and the conclusion provides insights that both game publishers and streamers can use to their benefit to build more popular streams based on the viewers' feedback and motives.

In a first time, a literature review is established to review the academic intakes concerning the Twitch platform and establish the lack of literature in the approach this thesis is following, then the gatekeeping theory is presented. Following that, a brief presentation of Twitch describes the platform and what makes it an innovative social network. Then the methodology chapter describes the methods used to collect and analyze the data. Finally, the findings are exposed to discuss and generate insights from the data collected and provide suggestions for further research in the same domain.

Literature Review

In the following, I will review the academic publications about live streaming that relate to the gatekeeping network theory I will be using next. In a first part, I will discuss the literature review in three related topics: Game Spectatorship, eSports, and Fandom. The related academic works reviewed studied online live streaming of video games, and some specifically Twitch.tv in relation to one or more of the three themes identified above. However, as there has been no approach yet that studied Twitch as a gatekeeping network, the purpose of this literature review is to identify the gatekeepers and link the findings with the gatekeeping theory. In a second part, I will discuss the importance of the user generated content and the participatory culture in establishing the media ecology that defines the Web 2.0 in which the gatekeeping network exists. These concepts are what makes it possible for a network to emerge and exist online by breaking down the traditional barriers of information control by the institutions and transferring the content making to the users. Finally, I will introduce the gatekeeping network theory elaborated by Chin-Fook and Simmons in 2011 and complement it with a few elements from the approach of Barzilai-Nahon to the gatekeeping networks, then adapt it to the purpose of this study to use it as a theoretical framework for my exploratory research.

Game Spectatorship

Researching Twitch.tv is first looking at the literature concerning game spectatorship and live streaming of video games in general. Historically, games have been made for one player to enjoy playing; however, that did not prevent other people to enjoy spectating them. Thus, the issues of analyzing and designing a suitable spectator experience represented a first step towards studying what today is the audience of video games online and offline. Such research was first mentioned in the works of Reeves, Benford, O'Malley, & Fraser in 2005 in “Designing the

spectator experience"; then with the rise of eSports in the past couple of years, more in depth academic approaches were taken as game spectatorship grew over the years.

In 2011, Cheung & Huang published "Starcraft from the stands: understanding the game spectator", where they studied the spectator experience in video games using the case of Starcraft II. The authors define the spectator as someone who actively follows the gameplay of a videogame without being necessarily playing it, then rise the issue of how should a game be designed to make it as enjoyable to watch as it is to play. The authors identified through their research nine categories of spectators based on their level of engagement and involvement in the spectating activity, from the least engaged, to the most engaged. This shows first the structure behind the "spectator experience" which already includes a player, a spectator, a game played, and a medium for spectating if is not an on-site event. It also shows that the level of engagement of the spectator can play a central role already in the outcome of the spectator experience.

Twitch as a streaming service for video games relies on several types of video content: major eSports tournaments, amateur streamers, professional streamers or eSports players, Twitch partners, speed run events, and game talk shows (Deng, Cuadrado, Tyson, & Uhlig, 2015). However, live video game tournaments remain the most prominent events that hit the highest peaks of viewership on Twitch. Moreover, some specific video games have succeeded in attracting and retaining a stable large audience over the years (League of legends, CS:GO, Hearthstone). Other games, as they are released, tend to only gain in popularity during a window of time before and upon release. By allowing streamers to broadcast exclusive gameplays of some video games before release, video game companies manage to attract large audiences around their games and increase their sales upon launching the games.

However, and similarly to the long tail effect happening in satellite TV (Anderson, 2006), it was found that "The top 10% of games collect 95% of all viewers [...] Alone, the top 10 covers 64% of all viewers" (Deng, Cuadrado, Tyson, & Uhlig, 2015, p. 2). This implies that the type of content matters: in other words, not all games make for a suitable spectating experience, and not all games succeed in building a sustainable and stable audience for itself through its streamers. This is already implying the existence of gatekeepers who act to polarize the viewership around a minority of live channels. The reasons however differ and are the result of several factors combined (money invested, time invested, promotions, sponsorships, etc.)

There is a dissociation between the channels and the games. Viewers tend to seek out the games that they like or play themselves. However, as they follow and interact with streamers on their channels, they start following the streamers and the purpose of the spectator shifts from watching the game to watching the player (Deng, Cuadrado, Tyson, & Uhlig, 2015). This creates an interesting dynamic of constantly shifting interests of the spectators in Twitch. Viewers appear to be constantly craving new content and could be considered a volatile audience that can be drawn to new sources of content on Twitch.

Game spectatorship already establishes some elements of our gatekeeping network: types of streamers, types of viewers, the relationship between them. It is also already hinting at the complexity of the network as several gatekeepers are seeking different objectives. However, and for the streamers, and game publishers, the goal remains to draw large audiences to their content and this where eSports comes into place.

eSports

eSports was defined as "an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies" (Wagner,

2006, p. 438). Today, the term is widely used to refer to the off-line and online video game competitions. There seems to be an association of eSports and Twitch, as it is the main medium of broadcasting for these events.

Live streaming platforms for video games such as Twitch, Own3d, and Ustream increased tremendously the audiences of onsite eSports events and tournaments like Dreamhack in Sweden, and the World Cyber Games. Thanks to these new online services, individual players of video games (amateurs and professionals) could start building their own public figure and audiences (Taylor, 2012). The heterogeneity of the audience platforms like Twitch could provide for eSports tournaments and individuals as they made it possible for them to be spectated from all around the world (Taylor, 2012).

The different stakeholders of the eSports industry include: Game developers, Sponsors and advertisers, Professional Gaming Teams, Professional Players, eSports events organizations (ESL, MLG), and finally Live Streaming online platforms (Taylor, 2012). Close to little importance was given at the time to the live broadcasting services as they were still emerging and developing. However, today the equation has changed and these websites and mainly Twitch.tv plays a central role in the success of eSports events and tournaments as it is their first channel of distribution and audience reach.

eSports tournaments increase tremendously the views of the game publishing studios for specific periods of times (Kaytoue, Silva, Cerf, Meira, & Raïssi, 2012). These events show the extent of the audience reach that big events can have worldwide thanks to Twitch.tv. They also highlight the influence game publishing studios have over the network as their events are what draw the highest peaks of audiences in the platform. However, although eSports tournaments and events bring together the largest audience pools, they only take place on specific venues and

dates. Hence, the importance of individual streams that retain the audiences on Twitch for most of the remaining time. From both these individual streams and the eSports types of streams emerge a community that revolves around shared interests, which brings us to our next theme: Fandom.

Fandom

The social factor is an important one when playing games offline with friends, or online for an audience. The way games are being played is changing and evolving from a solo experience to a social experience where one plays and others spectate and react to how the game is being played or narrated (Consalvo, 2016). There is a personal relationship that rises between the streamer and his audience who can shift the motives of spectatorship from casual watching to fandom. That is what happens today when a spectator presses the follow button on Twitch, then donates, and subscribes. Fans today relate to the streamers and their personalities and the way they comment their own gameplay. Thus, the streamer is playing an active role in the success and popularity of his own channel in the long term. This described social experience (Consalvo, 2016) is the result of several gatekeeping dynamics that take place between the streamers and their viewers, and later between the viewers themselves to further promote and share and discuss the streams they are watching.

Gaming communities and their sub communities are what makes it possible for platforms like Twitch to be popular. Those users, through their social networks and thanks to the online social platforms the web offers, make the gaming community. The latter breaks down to several sub communities based on game genres, specific games, gaming platforms and so on. These users share their opinions and discuss everything they experience (including Twitch channels)

online and can potentially affect the opinions of other users as a matter of fact (Hamilton, Garretson, & Kerne, 2014).

This directly relates to the power the audience can have in popularizing a stream in Twitch. Depending on which streamers they are watching, viewers do not tend to be active in all channels they watch, streamer interaction and responsiveness can play a central role in the participation rate of the audience. Participation being not only discussing in the live chat while watching the stream, but also participating in promoting the stream, sharing it, and talking about it to their respective networks. This is fairly important in the success of eSports as an industry as well. Fandom and the participatory effort of the gaming community in popularizing events is central to sustain and support the success of eSports (Taylor, 2012).

Through reviewing game spectatorship, eSports, and fandom, it was possible to establish the gatekeepers involved at first with the Twitch network: game publishers, individual streamers, viewers, and Twitch as the platform provider. The analysis also established first insights as to how the popularity of the channels is negotiated between the gatekeepers mentioned previously. Game publishers play an important part because they release the new content that is further used by the streamers to provide the audience with new content. eSports are leaning more towards being attracting a mass audience, while individual streams revolve around smaller communities. In both cases, fandom emerges, either at a micro or a macro level, and then translates into the engagement or not of the audience, whose role in popularizing channels becomes just as important as the streamers and the individual streamers.

However, for all this to be possible, it is important to discuss first two major media factor that make this all possible in the digital age: user generated content and the participatory culture.

User-Generated Content and Participatory Culture

The users of the online media today play a central role not only in consuming the media content, but in producing it as well. As social media continues to grow, the participation of audiences in creating and distributing content online continues to increase. This user-generated content (UGC) led to the rise of several online companies and institutions whose services rely exclusively on the users of their platforms to create content. In other words, the Web 2.0 media ecology is one that relies on the participation and inputs from its users to be successful (Bruns, 2006). Facebook, Twitter, and Youtube are familiar examples of the Web 2.0 as they rely strongly on the contributions of their users, the companies however, focus on providing and monetizing the online platform that connects the users.

As Web 2.0 empowers the users and the UGC, the line between producers and users becomes blurred, and users become *produsers* (Bruns, 2006). In the UGC, the users are not only active in interacting with the media content, but they also are involved in producing it. However, Bruns defines four major principles for user-generated content to be successful on the web:

- UGC strongly relies on the participation and the involvement of the web community.
- UGC is the product of a heterarchy rather than a hierarchy.
- UGC is a continuing process in which user contributions can always modify and improve the content.
- UGC is a common property of the community.

It appears from the principles mentioned above that UGC and produsage find their essence in the communal efforts of the users and their degree of involvement and participation where the users have equal chances of contribution, thus making it a heterarchy (Bruns, 2006). However, content production remains an individual effort made by the streamers in our case, and rather

relies on the community to support it, share it, and contribute to it financially through subscriptions or donations that encourage and help making more content by the streamer.

They also both are part of the framework of the participatory culture established by Henry Jenkins. Participatory culture encompasses the changes in the media industry driven by a communal effort to create or co-create and share media content on the web. In today's era where media content available online is growing, participatory culture plays a central role in the success or failure of such media. In this model, the audience is playing an active role in creating, consuming, and spreading the media content (Jenkins, 2006). This is possible because the internet breaks the geographic barriers and offers a virtual space for multiple heterogeneous communities to collaborate and share with each other.

However, such participatory communities remain mediated by media companies who play the role of an intermediary offering the services and platforms necessary for the content to be published (Facebook, Youtube, 9gag, Twitter, Twitch…). When McLuhan differentiated between the hot and the cold media, these new online media did not exist. Hot media require very little interaction from the user; on the opposite, cold media require more efforts and involvement from the audience (McLuhan, 1964). What is interesting about these new media based on user-generated content and produsage is that they are both hot and cold at the same time; it is up to the user how he interacts with the content based on his needs and wants.

This sets up the environment for the Twitch network to emerge and for its different stakeholders to collaborate towards a common goal: draw audiences to the live stream channels available on the platform. Although Bruns claims that for UGC to be successful it must be a common property of the online community, the Twitch model proves it wrong. The platform is the leading platform in the live streaming of video games while retaining ownership of the

content streamed and recorded on its servers (unless agreed otherwise with the streamers) (Twitch, 2017). Moreover, UGC is claimed to be the product of a heterarchy and while it is often the case on Twitch, there are still elements in which the hierarchy is present. That appears in the authority and power that game developers have over the game they produce and if they allow them to be streamed in the first place or not, combined with a set of rules and code of conduct that Twitch as an institution requires for anyone streaming on its platform to follow otherwise their channel would be banned.

Thus, UGC and the participatory culture seek to democratize the media through the accessibility of the internet and the web services, they make for a favorable environment in which social network can be successful today. However, this optimism has been criticized for several reasons. Authors like Fuchs criticized the exploitation of digital labor on such platforms stating that the new online media companies benefit from the labor of the users of their platforms without benefiting from it, comparing it to a form of digital labor exploitation (Fuchs, 2010). Nonetheless, streamers who use the Twitch platform to broadcast their plays often do with the intention to generate audiences and thus revenues through either donations, advertising, or ultimately signing a Twitch partnership which allows them to become Twitch partners and thus benefit from a subscription option for their viewers to pay for premium content on their channels.

Furthermore, just because UGC platforms offer the necessary tools to everyone to be able to produce, create, and contribute does not necessarily mean that they will do so. In fact, on Wikipedia there is only about one percent of the users who actively create content by themselves (Benkler, 2006). Moreover, most of the new media giants (Google, Facebook, Amazon…) rely heavily on recommendations algorithms that showcase a minority of top hits that retain the users' attention online for commercial purposes. This is to say that even if UGC democratizes the

production of content, it does not necessarily do the same with its consumption; what is described as the participation inequality (Nielsen, 2006).

The same applies to Twitch: just because everyone can be a streamer, does not mean everyone is. Streaming and content making require a considerable amount of efforts from the content maker in the hopes of generating an audience, and even more efforts in retaining that same audience or increase it. In presuming that people should be active and creating content, UGC and the participatory culture omit to consider the motivations and gratifications behind the consumption of digital content; these being affective, information seeking, learning to play, personal integrative, social integrative, and tension release in the case of Twitch.tv (Sjöblom, Törhönen, Hamari, & Macey, 2017). They also omit to consider the power of Twitch itself in promoting and thus contributing to the success of certain channels over others. Some streamers benefit from their belonging to the professional eSports scene, others from Home page promotions by Twitch itself, while the majority still must input a considerable amount of time, efforts, and even money sometimes to gain visibility.

This in fact is at the center of gravity in the power relationships that exist in Twitch: the success and viewership of streams (channels hosted and led by their respective streamers) are the product of multiple interactions between game developers, Twitch, streamers, and the audience. These disparities in the popularity of streams are the result of interactions between the existing gatekeepers in the network, even in the Web 2.0, that have a control over the flow of information and the potential success or failure of these streams on Twitch. These gatekeepers all try to influence the popularity of the streams while using the gatekeeping bases individually; however, it is the interactions between all of them using these bases that results in a negotiated popularity of the available streams on Twitch.

Hence, this research sheds the light over a phenomenon that has not been researched yet: how does gatekeeping affect the popularity of the streams in Twitch. Gatekeeping is "the process of controlling information as it moves through a gate" (Barzilai-Nahon, 2008, p.1496). In this context, information is the streams available for the audience to watch on Twitch. Streams are the essence of what Twitch is: they are a combination of a choice of game, visual elements, and a streamers' performance and commentary to deliver as audiovisual content for an audience to watch. Hence, the streams are the information. Gatekeepers (institutions, streamers, and the audience) all engage in gatekeeping dynamics that affect the popularity of the streams which ends up generating value for the gatekeepers involved. To explore these gatekeeping mechanics, the gatekeeping network theory was selected because it is the best match to the insights this study is looking to generate.

The Gatekeeping Network Theory

Twitch.tv prospers because of the success of Web 2.0 and the emergence of the user generated content and its spreadability through a participatory communal effort. This formed network and its dynamics plays an important role in the increasing popularity of the individual or organization's streams available on Twitch through several gatekeeping bases. These streams are subject to gatekeeping mechanics that emerge from the power positions held by the different gatekeepers involved in the network: game studios, streamers, Twitch, and the audience.

Exploring the power held by these gatekeepers over the streams popularity and understanding them can generate relevant insights on how channels are promoted, and how they become popular on the platform. Moreover, the findings can provide the game companies, streamers, and Twitch with better insight as to how they can increase their audience reach. By doing so, the popular channels become an important tool for drawing audiences that can be

monetized by the streamers, Twitch, game developers, and the advertising institutions. For that purpose, the gatekeeping network theory was selected because it is the best theory matching this research encompassing all previously discussed elements that all contribute to elaborate this gatekeeping network. Although the gatekeeping network theory is the best match for this study, it is subject to criticism as the analysis will show. Some of its assumptions are proven not to be valid anymore, and the list of gatekeeping bases provided is not enough to describe all the influence the gatekeepers exercise in the Twitch network. Hence, the analysis will expand the list of gatekeeping bases in this specific case, while rejecting one of the assumptions established by the theoretical model. This process redefines yet again the theory, which shows that the theory can still adapt to the case of Twitch.

A brief history:

The gatekeeping theory is a theory that has been constantly developing, evolving, and adapting through time. It was first created by the psychologist Kurt Lewin in 1943 as he was trying to study how food was rationed in the households in the USA during the second world war. He then defined the *Gatekeeper* as the person who was in control of what food was served in the households, in other words the housewives. In 1950, David Manning White was the first researcher to apply Lewin's theory to the media and specifically to the distribution of news stretching the central role the editor played in selecting the news redefining gatekeeping in relation to the editor as an "extremely complicated set of decisions to make regarding the limited number of stories he can use" (White, 1950, p. 384).

One of the most prominent works about gatekeeping is the "*Gatekeeping Theory*" by Pamela Shoemaker and Tim Vos in 2009. Both authors collaborated to redefine gatekeeping in communications as "the process of culling and crafting countless bits of information into the

limited number of messages that reach people every day" (Shoemaker, & Vos, 2009, p. 1). They also rejected the idea that because of the free and democratic nature of the internet and the web 2.0, gatekeeping could no longer exist. As they focused their works on news blogs, their criticism to this claim is that although UGC on news blogs is free, its content still come from news sources and the mainstream media. However, not all the internet is made of news blogs, and most of the content online does not follow the same model; this puts us in a position where gatekeeping needs to be redefined again to fit the changing media ecology in a digital environment. Therefore, the gatekeeping theory was later redefined and used in different sectors: communication, management and technology, information science, political science, and in the digital age (internet) which is the one that interest us the most in this case (Barzilai-Nahon, 2009). The work on Barzilai-Nahon constitutes a breakthrough in evolving and adapting the traditional gatekeeping theory to the digital age switching from a traditional gatekeeping model to what is now called gatekeeping networks.

The original works by Vos and Shoemaker of a unilateral gatekeeping model has been cited in 259 published articles in the Scopus database, with a growing number of citations since 2009; from 3 documents published citing it in 2009, 31 in 2013, 56 in 2016, and 49 in 2017. This shows the increasing interest in studies in the gatekeeping phenomenon, and although the unilateral model has been criticized, the theory itself is still used because it can adapt to the changing online media environment in the digital age.

Gatekeeping Theory in the digital age:

The theory I am most interested in and which will be the central theoretical framework of my research is the one elaborated by Lianne Chin-Fook and Heather Simmons in 2011 in their article "Redefining Gatekeeping Theory for a Digital Generation". Based on the previous works

of Shoemaker and Vos of a one-way top down model, Chin-Fook and Simmons introduced a multidirectional model in which all agents interact with each other rather than having a top down gatekeeping flow of information.

While it may seem that Web 2.0 and the spread of user generated content online is breaking down the gatekeeping barriers that used to exist, the increasing active audiences online are indirectly becoming gatekeepers themselves and to each other (Shoemaker, & Vos, 2009); the nature of the audience itself is being redefined in a digital environment as not only they are consuming the content, but they also are producing it, and publishing it. Web platforms, who allow this to occur, end up disabling gates by which the information travels online and positioning the users in a central role in determining what they chose to receive and publish (Basen, 2011). These changes in the digital media systems pushed the theorists to consider using a network model for gatekeeping in the digital environment.

The gatekeeping network becomes important because it implies an ongoing set of interactions and dynamics between the gatekeepers, rather than a hierarchical power distribution that results in a unilateral model, one introduced by Vos and Shoemaker and criticized for that. Moller & Halinen (1999) defined networks as the processes by which individuals are linked to each other but also to the businesses, organizations, and institutions. This same definition can be broken down to two major parts: on one hand the individuals and institutions, and on the other hand the links in between them (Kanter, & Fine, 2010). Traditionally, institutions would be on one side and the final users on the other side, giving the institutions an absolute control over the gatekeeping processes and over the information the final user receives; however, because of the internet, this power relationship shifts and affects the gatekeeping positions and roles within a network (Moller, & Halinen, 1999). As the latter authors claim, the importance of networks in a

digital age lie in their ability to empower individual users and situate the organizations and institutions in a position where they depend on the already established peer-to-peer networks of the users to increase their reach and reinforce their image (Moller, & Halinen, 1999).

The importance of the individuals in networks in the digital age is later reinforced by the works of Sheldrake (2011) who named them influencers as people who would make other individuals think or "do something that they would not have otherwise done" (p. 188). Influencers, which are represented by the streamers in Twitch, play then a crucial role in the networks as they constitute a bridge between the organizations and their target audiences. These influencers are individuals that have built a network where they exert influence and through which they are popular. It can be the result of a large Facebook network, a popular YouTube channel, a professional career, or simply amateur streamers who built and retained an audience through time on Twitch. They have the characteristic of being streamers and viewers at the same time as they tend to be active on Twitch as both, thus making them gatekeepers and gated at the same time, not only as streamers who have a central role in deciding what information their audiences will be exposed to, and becoming audiences when not streaming themselves.

These gatekeeping mechanisms in a network rely on several gatekeeping bases that include "among others, selection, addition, withholding, display, channeling, shaping, manipulation, repetition, timing, localization, integration, disregard, and deletion of information" (Barzilai-Nahon, 2008, p.1496). This definition of gatekeeping lists most of the gatekeeping bases used by the stakeholders of the gatekeeping network influence one another (Barzilai-Nahon, 2008). The theoretical model established by Chin-Fook and Simmons combines well with the gatekeeping bases' definitions by Barzilai-Nahon and both complement each other in establishing a research framework that fits my own research. Barzilai-Nahon's work on

gatekeeping networks establishes a set of vocabulary and definition to help identify the relationships between the gatekeepers and the gated (elements subject to gatekeeping mechanisms) (Barzilai-Nahon, 2008).

Table 1. lists the gatekeeping bases and their definitions established by Barzilai-Nahon.

Gatekeeping base	Definition
Selection	Making a choice or choosing from alternatives
Addition	Joining or uniting information
Withholding	Refraining from granting, giving, or allowing information
Display	Presenting information in a particular visual form designed to catch the eye
Channeling	Conveying or directing information into or through a channel
Shaping	Forming, especially giving a particular form of information
Manipulation	Changing information by artful or unfair means to serve the gatekeeper's purpose
Repetition	Saying, showing, writing, restating; making; doing, or performing again
Timing	Selecting the precise moment for beginning, doing, or completing an information process
Localization	Process of modifying and adapting information, products, and services to distinct target audiences in specific locations in a way that takes into account their cultural characteristics
Integration	Forming, coordinating, or blending into a new functioning or unified whole
Disregard	Paying no attention to information, treating it as unworthy of regard or notice
Deletion	Eliminating information especially by blotting out, cutting out, or erasing

Table 1. Gatekeeping bases in a network context. Note. From "Toward a Theory of Network Gatekeeping: A Framework for Exploring Information Control" by K. Barzilai-Nahon, 2008, *Journal of the American Society for Information Science and Technology, 59(9):1493-1512 p.1497*

Once the above agents of a network in the digital age have been identified, and the list of gatekeeping bases by Barzilai-Nahon have been presented, the theoretical framework proposed by Chin-Fook and Simmonds (2011) relies on five assumptions:

1. The internet is becoming a major tool of communication and is gathering users beyond international borders.
2. Digital media online is free to use and has no restricted access for users around the world.
3. The traditional gatekeeping model presented by Shoemaker & Vos rely on a unidirectional flow of information.
4. Traditional media are trying to reinforce their gatekeeping practices online using the traditional practices but are failing to do so because of the new nature of the digital environment.
5. Web platforms are not gatekeepers themselves. They offer a platform for interaction, but rely on the user generated content, empowering the users and influencers who become gatekeepers themselves in this model.

These assumptions make the starting point of Chin-Fook and Simmonds theoretical framework. It is important to mention that their work is focused on gatekeeping in the news media sector, and thus oriented towards the use of social platforms like Facebook, Twitter, and Linkedin as their focus of study.

Twitch.tv fits the model for most of it, but is challenging some of the assumptions the model makes. Twitch, although being a digital media platform is free and accessible for most of the countries around the world except for China (Usher, 2017). Furthermore, even if Chin-Fook and Simmons assume that web platforms are not gatekeepers themselves, this assumption does not apply to Twitch. Even if Twitch does not produce any content itself, it plays a central role in

curating and controlling the types of streams and streamers that go live on its platform. By doing this Twitch keeps a major gatekeeping role over its platform that can make or break the popularity of the channels available on the platform through different ways that will be discussed on the analysis part. The gatekeeping network model still applies on Twitch once these assumptions have been challenged and discussed and that is what I am elaborating next.

The theoretical model proposed by Chin-Fook and Simmonds (2011) is a redesign of the traditional unidirectional gatekeeping model proposed by Shoemaker and Vos, transforming it from a unidirectional flow model to a multidirectional flow model in which the agents are no longer independent from each other and work in pairs; rather, they constitute a network where the agents are interrelated and interdependent as represented in Figure 1. Below:

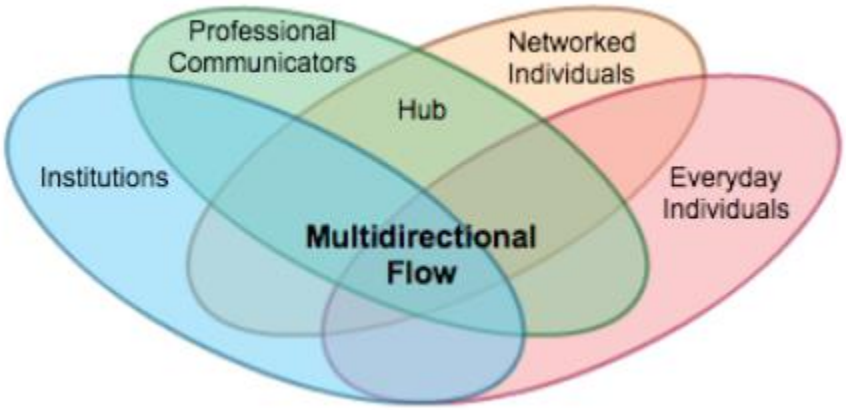

Figure 1. Gatekeeping Redefined -- Multidirectional Flow. Note. From "Redefining Gatekeeping Theory for a Digital Generation" by L. Chin-Fook and H. Simmonds, 2011, *McMaster Journal of Communications 8:7-34, p.26*

The professional communicators, institutions, networked individuals, everyday individuals, and the hub are the elements referred to previously as the stakeholders of Twitch. Because the internet service providers as an institution are mandatory for a network like this one

to even exist, it will not be included in the practical stakeholders listed below. In practice, this theoretical model would be represented by the following:

- Institutions: Game developers and Twitch.tv. These regroup the institutions responsible for developing the games which are the source of content streamers use to live stream and thus create their own content on Twitch. Twitch.tv as an institution plays an important role as well in curating the streams, enforcing codes of conducts, censoring types of content, and even banning streamers who do not respect their rules
- Professional Communicators: previously referred to as shoutcasters and game analysts, these play an important part especially in the live streams of eSports competitions because they are responsible of breaking down and explaining everything that is happening during a live stream for the audience. Professional communicators play a lesser important role in gatekeeping when it comes to my research as they are representatives of the institutions during the events and thus not have a major role in the gatekeeping process I am interested in.
- Networked individuals: they include every streamer who broadcasts live streaming content on Twitch. These could be amateur streamer, Twitch partners (streamers who collaborate with Twitch after reaching a certain tier of viewers and popularity), and professional eSports players. Networked individuals are the meeting point of interests of both institutions and audiences, and thus play the bridge role between them.
- Everyday individuals: these are the everyday users of Twitch, and what I refer to as the audience of viewers. These include both the viewers and the networked individuals as they turn into everyday individuals once they are not streaming and become viewers themselves for other streamers.

- Hub: Twitch.tv as a digital media platform. Twitch is unique because while it is primarily a social network for live streaming of video games that serves as a meeting hub for all the previously mentioned stakeholders, it plays both the roles of an institutions involved in gatekeeping and being the hub where all of it happens.

To give an illustrative example: a game publishing studio (institution) looking to promote an upcoming video game will sponsor a popular streamer (networked individual) to play their game on a period before its official launch using the **selection** and **timing** bases. The latter, will rely on several bases (**display**, **addition**, **integration**, **channeling**) to build a cohesive visual package (the stream) to draw the audiences to watch it. Finally, the audience (everyday individuals) through many bases as well (**selection**, **timing**, **participation**, **channeling**) will constitute the popularity of the stream and be active, or not, in sharing and spreading it, making it even more popular. Twitch as the hub, might then promote and recommend the channel as well to the general audience. This is an illustrative example showing how all the gatekeepers can interact in the network in a specific situation.

The model represented in Figure 1. is one that is most representative of the gatekeeping mechanics and dynamics in today's digital age as the internet is not only redefining the roles of the traditional gatekeepers but also creating new ones and empowering the roles of the individuals and the influencers on the web. All the actors of the multidirectional model can, to some extent, influence one another creating new gatekeeping mechanics that can only occur in a digital media ecology (Chin-Fook, & Simmonds, 2011).

Because the purpose of this exploratory research is to investigate how the gatekeepers mentioned above influence the popularity of the streams in Twitch, these gatekeeping bases will be used to rank the different gatekeepers of the network based on the gatekeeping bases they

each use to affect a streams' popularity (information control). These bases will be used in both the methodology and analysis part as they will be the basis of the cultural coding process of the netnography and the online survey conducted in this research. In the analysis part, the stakeholders of the Twitch network will be analyzed regarding the power they hold over the popularity of the streaming channels in Twitch. The Barzilai-Nahon's vocabulary and definitions are helpful in providing a list of codes that either are applied or not by the different gatekeepers providing us with a practical tool to compare the gatekeeping power of each gatekeeper in comparison to the others in the network.

It is important to establish at this point the angle from which the gatekeeping network theory will be used and how it will be used highlight the dynamics that exist within it between the gatekeepers involved. The Twitch.tv business model is straightforward from a streamer's perspective: start a stream, build an audience, retain the audience, and monetize the audience. Monetizing the audience can come through different ways: either donations received as contributions from the streamer's viewers to his or her stream, advertisers and sponsors who seek to reach out to a large number of viewers through the streamer's channel, or a Twitch partnership which ultimately results in the addition of a subscription button to the streamer's channel that makes his content offer premium features to his or her viewers in exchange of a monthly subscription paid by the viewers to access the content and benefit from an ad-free experience on the channel. To sum up, a streamer can monetize his audience through advertisement, sponsors, subscription through a partnership with Twitch, and donations; while Twitch makes most of its revenue from advertisement and the subscription revenue per streamer.

All in all, the goal of a streamer while streaming on Twitch is to build an audience and increase his stream's popularity. This is where gatekeeping comes in as the different gatekeepers

with their different interests can affect the popularity of the available streaming channels (also called streams) available on Twitch. The way these gatekeepers affect the popularity of the channels can take place using one or more of the gatekeeping bases identified previously in Table 1.

This research will be then focused on exploring how the gatekeepers affect the view counts of the live streams with the use of the several bases shown in Table 1.1; the study of gatekeepers relies on the study of pairs based on the power they each have and how it reflects on the popularity of the streams, was it positive or negative, the methodology chapter will provide more details as to how this will be done. These pairs are established as follow:

1. Institutions → Streams
    a. Game Developers → Streams
    b. Twitch → Streams
2. Streamers → Streams
3. Audience → Streams

These three pairs will represent the core of the analysis of my research generating new insights as to how the gatekeeping bases used by these different gatekeepers affect the popularity of the streams available in Twitch. Identifying which gatekeeping bases are used by each gatekeeper in affecting the streams' popularity will build an understanding as to how the gatekeepers affect the popularity of the streams and how they interact with one another. This research will also challenge a major assumption of the Chin-Fook and Simmons model that is that the web platform is not a gatekeeper. Moreover, new important gatekeeping bases that are used in the Twitch network will be identified and will be suggested as contributions to the ones

established in Table 1.1. All the theoretical implications will be discussed at the end of the analysis chapter once they have been established.

This study uses the multidirectional model of the networked gatekeeping theory from Chin-Fook and Simmons, while combining it with the gatekeeping bases table established by Barzilai-Nahon. This new constructed theory helps achieve a deeper understanding of Twitch, which emerges as a different type of media platform than the ones gatekeeping was previously used for, as an online live streaming platform and could serve future research on similar platforms on the web.

Presentation of the case

Twitch.tv is "the world's leading social video platform and community for gamers, video game culture, and the creative arts" (Twitch, 2017). It is a digital media platform that makes it possible for individuals to broadcast their gameplay to millions of viewers who tune in every day seeking live entertainment.

Sharing one's video gaming experience has always existed between friends and family; while some were playing, the others were watching and commenting or watching carefully waiting for their turn to play (Taylor, 2012). Meanwhile in arcade games players would watch others play to learn from them and improve themselves, or just for the sake of entertainment (Taylor, 2012). Twitch comes as an extension of the offline gaming experience and offers the possibility to share online with an international heterogeneous audience that is seeking live entertainment (Webb, 2012).

Twitch.tv provides the streamers and the viewers with an online platform where they could meet and share their live gameplay. It makes it possible to share one gamers live experience with millions of viewers in a way that goes beyond physical borders. In that sense, what makes Twitch.tv the best platform in its genre are both the nature of its content and its characteristics as a new media platform. Twitch is social media platform that specializes in the live broadcasting of video games by the users for the users, but also offers live coverages of eSports tournaments, and other game events (E3, Blizzcon, TwitchCon, etc.). On top of that it is an Internet Protocol Television that relies on user-generated content, major game companies eSports events, charity events, and the participation of the audience through chat, donations, and subscriptions. Moreover, Twitch benefits from its multi-temporality and its audience reach: because the content is user generated, Twitch does not have any sort of linear programming,

streamers decide when and what to broadcast, just like viewers decide when and what channel to watch. Also, because Twitch is a free to access platform, it has a worldwide audience reach that tunes in everyday to watch and participate. A total of 292 billion minutes of live video content was watched in 2016 on the platform compared to roughly 12 billion minutes in 2011 (Businesswire, 2011), and around 14.2 billion chat messages were sent, for a total of 2.2 million unique available channels to watch (Freitas, 2016).

In a report published in 2016, Mediakix reported that the average time spent a day per individual on social media platforms in the U.S. (Youtube, Snapchat, Instagram, and Twitter) is around two hours a day (Adweek, 2017). Similarly, Twitch.tv reports that every viewer on their platform watches about 106 minutes of video content per day (Twitch, 2017). Compared to 2015, there is an increase of 40 minutes watched per viewer on the platform for a total of 9.7 million daily active users (Twitch, 2017). These numbers prove that Twitch.tv is a social media platform worth researching as the discovered results will be an asset to all the different parties in the network in which Twitch serves as a meeting hub.

Videogames are a source of audiovisual entertainment, but more importantly are universal: when watching someone else play a videogame, it is mostly about the gameplay, not the language which is the main barrier in the internationalization of other video made content (movies and tv shows). Because video games are inclusive by nature, their audience becomes inclusive as well and the game experience becomes one that can be shared by users and spectators beyond physical or national boundaries; meaning language is not a barrier when playing or spectating video games as long as you understand the visual information.

Moreover, videogames represent a booming market on all screens (consoles, computers, tablets, and smartphones) accounting for some projected $103bn by the end of 2017 (Newzoo,

2014) as shown in Figure 2. below. This is about the third of the projected revenue of the TV and video industry worldwide which is projected to reach 324.66 billion in 2020 (Statista, 2017), which reinforces the position of video games as a major entertainment industry in itself. In fact, because of the growth and spread of video gaming to different devices and screen, Twitch have been working on following the trends by being present on all platforms: app for mobile devices, website platform for computers, and console integration for console players.

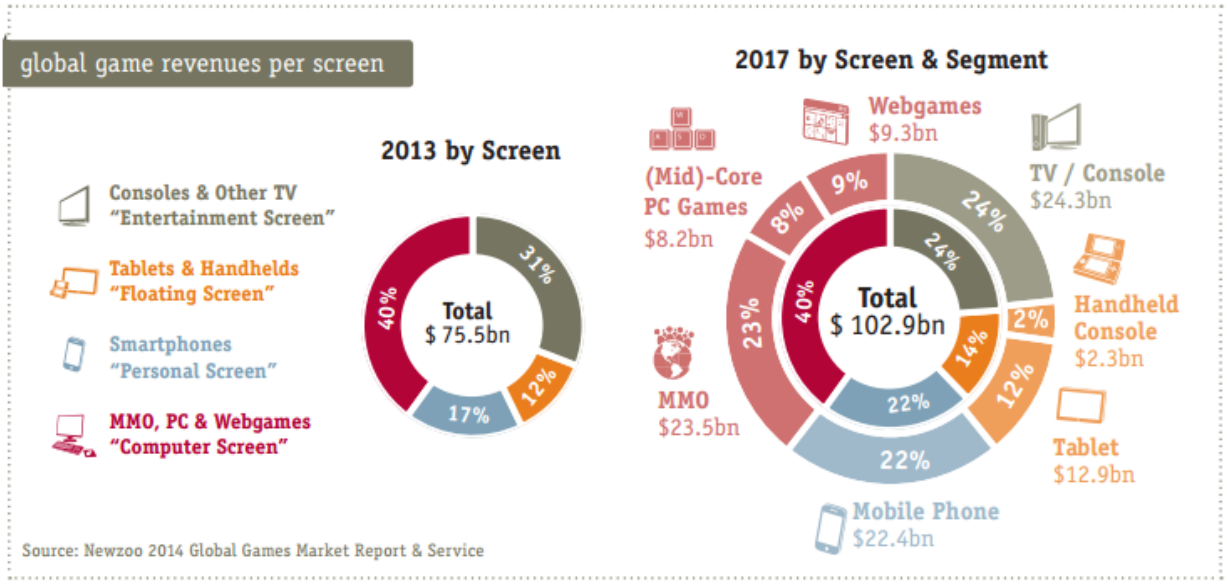

Figure 2. Global game revenues per screen. Source. From "Towards the global games market in 2017. A broad look at market growth by screen and region" by Newzoo, 2014.

Figure 2. shows that the global revenue of the video game industry is projected to grow by a total of 36.2%. Although the figure shows a decrease of the TV/Console segment from 31% to 24%, their revenues increased by a small percentage. While the mobile games represent the major market growth because of the increasing mobile penetration worldwide, the MMO and PC & Webgames market are projected to see their sales increase considerably from some 32bn to an expected 41bn worldwide. This comes in conjuncture with the rising eSports industry market and

the global streaming of video games that is still considered to be the major platform of gaming for eSports and for online streaming that will be shown below.

Furthermore, another factor that contributed considerably to the success of Twitch.tv is the rise of eSports. eSports would be the competitive scene for video games revolving around the Player Vs Player (in short pvp) aspect of the video game, making it easier for specific genres like Multiplayer Online Battle Arena, Real Time Strategy, or Fighting types to be more popular. The rise of competitive video gaming attracts thousands of players worldwide not only to participate, but also to spectate (Kaytoue et al., 2012). The role of Twitch came then as a medium between the live eSports events and its mass audience all around the world. Figure 3. shows the eSports audience growth in millions from 2012 to 2017 (Newzoo, 2014). Taking into consideration the fact that Twitch.tv launched in June 2011, eSports managed to provide a considerable stable and diverse audience to the platform.

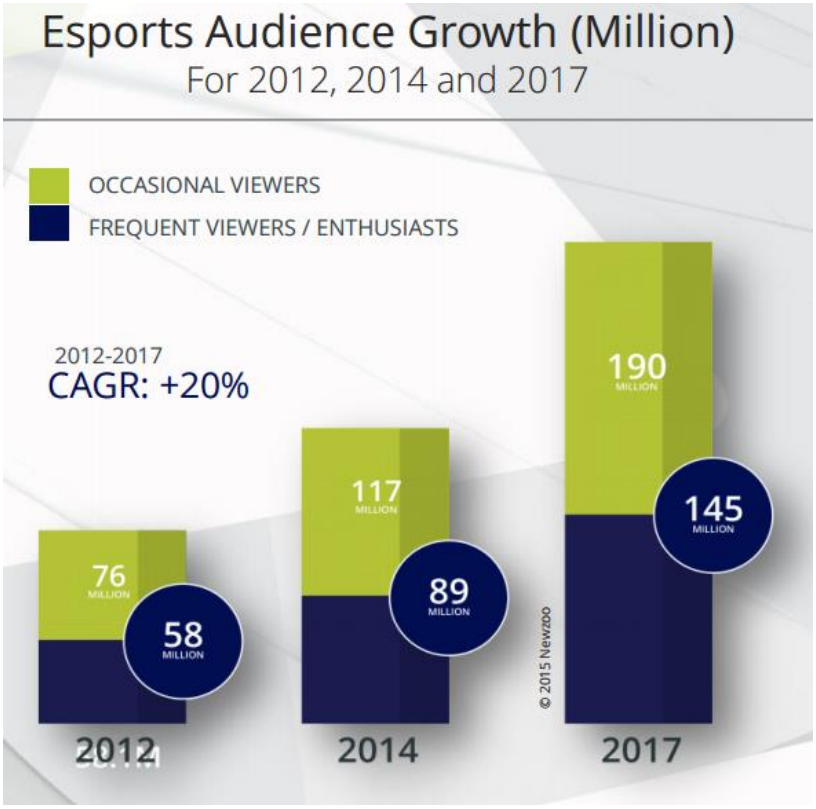

Figure 3. Esports Audience Growth. Note. From "The Global Growth of Esports. Trends, Revenues, and Audience Towards 2017" by Newzoo, 2014.

The occasional viewers seem to account for more than half of the eSports spectator population meaning there is a high turnover of spectators who tune in to watch video games being played. This makes for substantial part of the Twitch audience that spectates the video games broadcasted. Figure 4. below shows how the eSports industry is set up. This provides an overview of how all the stakeholders are involved in constituting the eSports industry, it also shows the central role that Twitch and similar live streaming services are the channels of broadcasting that eSports rely on and use to reach their audiences worldwide. That puts Twitch in a central role by linking the several stakeholders to their audiences through Twitch. In context to what has been discussed in the theoretical framework, Figure 4. provides and illustration of the established gatekeeping network with all namely gatekeepers involved in it

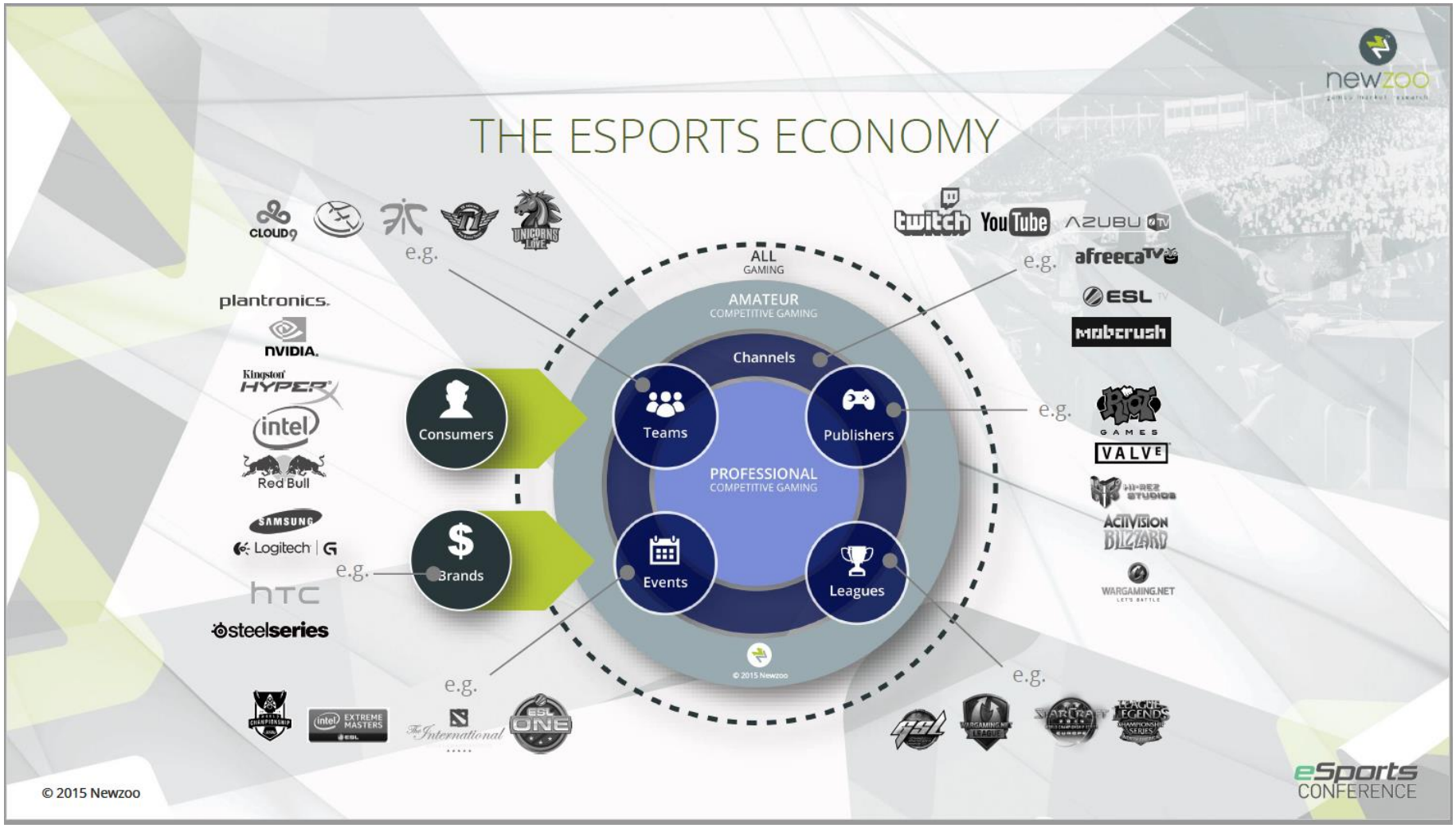

Figure 4. The eSports economy. Note. From "The eSports Industry to Date. The Drivers Behind Current and Future Growth" by Newzoo, 2015.

Because this study is focused on Twitch as a platform regardless of how central eSports might have been to establish it as a leading platform for live streaming of video games, the analysis will evolve around the daily uses of Twitch, rather than the seasonal eSports events that incrementally increase the audiences of the platform. Although eSports events create huge spikes in traffic on Twitch by attracting millions of viewers, regular amateur and professional streamers are just as important in terms of cumulative audience size (Tassi, 2013). Figure 5. takes Dota 2, a multiplayer online battle arena game streamed regularly on Twitch by both amateurs and eSports competitions, and shows how there is an incremental increase in the audience size during eSports events. However, the steady size of the audience outside of the eSports events is just as important because that is the audience that keeps the Twitch platform up and running throughout the year, and that is just one example of one of the many video games streamed on Twitch daily.

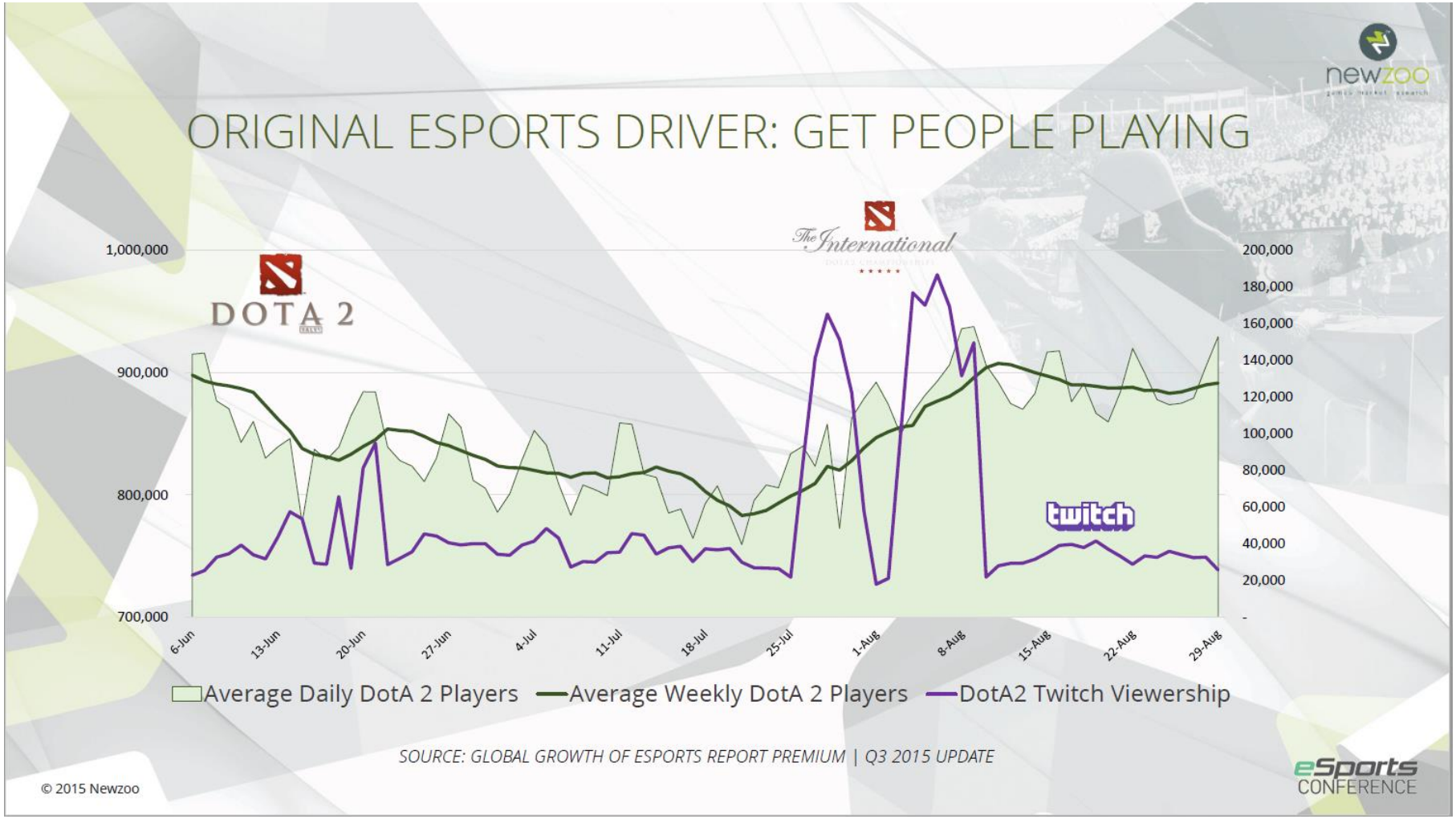

Figure 5. Original eSports Driver: Get People Playing. Note. From "The eSports Industry to Date. The Drivers Behind Current and Future Growth" by Newzoo, 2015.

The combination of these previous elements all put together are what makes Twitch the leading platform in online live streaming of video games today over its competitors (Azubu.tv, Hitbox, YouTube Gaming). However, and unlike any other social media platform that attracts a mass audience, Twitch becomes a meeting place for multiple stakeholders that seek to reach audiences that gather around popular streams in the social network. This makes Twitch a large international hub where the spectators become the targeted audience of several agents: amateur players, professional players, video game companies, advertisers, sponsors, and charity organizations. These agents added to the targeted mass audience and the social media platform that is Twitch constitute a large network where gatekeeping occurs at all levels.

Game publishing studios, streamers, viewers, and Twitch altogether constitute the network in which making a popular equal monetizing the stream. Game publishing studios provide the streamers and the viewers with the video games being streamed. Streamers use the video games as a basis to create a visual experience for the audience to watch. Twitch links all of them by providing the platform and engages in promoting streams, and offering partnership programs to the streamers; while the viewers watch, participate, and share the streams they are watching. This makes for a network where gatekeeping is important as drawing audiences to streams is the objective, thus increasing their popularity.

For that matter, the purpose of this research is to study the gatekeeping bases used by the different gatekeepers on the Twitch.tv platform to understand how their power positions in affecting the popularity of the streaming channels differ from one another. By studying this live streaming platform, this research plans to identify the gatekeeping bases that exist on Twitch to provide results that can help increase the audience participation, interactivity, and viewership on the platform making for a larger audience, and a more engaged community. These would be

valuable findings not only to the Twitch platform but also to the different stakeholders involved as well. By identifying the power of the audience and through what gatekeeping bases, the game developers, advertisers, and streamers seeking to better reach the individual viewers can rely on these generated insights to better adapt their strategies to increase their audience reach and better engage them in using the platform.

Therefore, my central research question is: In a gatekeeping networked environment, how do gatekeepers influence the popularity of the live streams on Twitch?

To answer this question is to investigate the Twitch network and establish how the gatekeepers interact with the streams and how they can influence one another; then, investigate influence as dependencies between the gatekeepers, while stretching the active role the audience plays as gatekeeping assumes that the audience is subject to the gatekeeping bases, when the audience can in fact be independent in their choice of streams to watch, and popularize.

To do so, I will proceed further below by discussing the methodology adopted to collect and analyze the data that served to answer these research questions. Then I will proceed with the analysis of the results and discussing the theoretical and practical implications of the findings.

Methodology

The study of an online social media platform, Twitch.tv in this case, is one that relies essentially on the study of the platform itself by using it and observing the online community that makes the community of this platform. For that matter, most of the data that requires collection is an analysis of the platform itself and the dynamics of its different stakeholders. As previously established in the theory chapter, three pairs that exercise gatekeeping power on the network were identified: Institutions → Streams; Streamers → Streams; Audience → Streams. The focus of this exploratory research is to identify which gatekeeping bases (from the list elaborated by Barzilai-Nahon in her model) are utilized by every gatekeeper in affecting the popularity of the streams to understand how the popularity of the streams is controlled in the gatekeeping network.

The type of data required to conduct such research relies on a combination of primary and secondary data. The secondary data being already available online under the form of blog entries, online journal posts, industry analysis papers, and users' feedback and forum threads about how they use Twitch. The primary however, comes under the form of participant observation while using the Twitch platform as a user for a specified period; along with that a questionnaire was distributed with the selection of a random sample of Twitch users to generate conclusions as to what gatekeeping bases they use consciously or subconsciously that end up affecting the popularity of the streaming channels on Twitch. Altogether, this research relies on the use of mixed methods to collect and analyze the data. The first methodological approach selected for this research is netnography, based on the works of Robert V Kozinets.

Netnography is a "new approach to conducting ethical and thorough ethnographic research that combines archival and online communications work, participation and observation, with new forms of digital and network data collection, analysis and research representation"

(Kozinets, 2015, p.1). Netnography is important today because the nature of the way we use and interact with online social media is growing at a fast pace, it is a tool for analyzing and understanding digital networks and online environments. While netnography is a form of ethnography, it differs from the latter in its methodology as it focuses on the study of online communities following a specific set of guidelines to enter, observe, analyze, and report of the community studied. Its methodology is different as well as it enables the combination of quantitative and qualitative methods under the form of digital data collected online.

The study of the behavior of users on an online media platform like Twitch generates enormous amounts of digital content that is only available online by the study of what the users broadcast, write, comment, and discuss, it is important to have a methodological framework that enables the researcher to grasp and analyze that data available on Twitch. This is where netnography comes in to provide the researcher with a framework and guidelines on how to narrow his scope of research and pinpoint how data should be selected and what steps are required in selecting the relevant data to be collected and used for the research out of the large base of data that is available online.

Because netnography as a research method is about researching online networks, it is a good match for the theoretical framework of this research that is considering gatekeeping in the digital world to be a network as well, as such “netnography is ethnography for online networks of social interaction and experience” (Kozinets, 2015, p.100). Twitch being the social media platform, it is at the center of a network of several gatekeepers in which the audience plays an important part, and thus, researching the audience who is the community of Twitch makes netnography a perfect match to the theoretical framework. This research is relying on a qualitative methodology using an inductive approach in which empirical research is conducted

first through netnographic participant observation, then links to the theory are drawn to answer to the research questions that define the purpose of this thesis. Further along, the questionnaire will help understand the behavior of the audience in the network, what gatekeeping bases they use, and if they are affected by the other gatekeepers in the network.

It is important to state that the nature of this research is exploratory as the purpose of this research is to elaborate the gatekeeping network for which Twitch.tv in a quest to understand its dynamics in popularizing streams. However, defining the gatekeeping network implies defining the gatekeeping bases used by each gatekeeper; hence, this research is intended towards exploring how does each gatekeeper influence the popularity of the streams. This being the main research question of this thesis, there must be other sub research questions answered first to provide a general overview of the network elements, and how they each contribute to the popularity of the live broadcasts. The study of behaviors in their use of the gatekeeping bases will identify the bases used by each, and analyze how they can affect one another, thus creating a dynamic network where power is not defined by the status of a gatekeeper, rather it is negotiated as a result of the combined interests from the gatekeepers.

What makes netnography the best methodology to use for this research is that it is a methodology "where a significant amount of the data collected and participant-observational research conducted originates in and manifests through the data shared freely on the Internet" (Kozinets, 2010, p.79). Not only this, but netnography does not exclude the pairing of other research methods such as online interviews and surveys to help conduct a deeper and more fruitful research. Because the heart of study of netnography is the information shared online through text, pictures, or videos by online communities for the public interested, it is the most adequate method to use for a research on an online broadcasting web platform for video games

that is Twitch, in which data collected is the result of screenshots captures on Twitch, video live streams watched, and online posts published by other amateurs or professionals who have used Twitch or are trying to write about it themselves.

Netnography has been previously used in several types of marketing research. The objective being to understand the online communities' attitudes towards specific products on online forums and social networks. Jiyao Xyn and Jonathan Reynolds in "*Applying netnography to market research: The case of online forum" (2010)* studied online discussions forums about digital cameras to understand how users used electronic word of mouth to affect other users purchasing decisions. Similarly, a study about the tourist experience in Egypt used netnography to analyze tourist's feedback on online forums and communities to better grasp their needs and wants when travelling to Egypt (Rageh, Melewar, & Woodside, 2013).

The studies found netnography useful because it enables access to a larger target audience for study. It also provides better continuity while doing research as feedback is easier to receive online, while saving both time and money as a methodology. However, some of the downsides of using netnography reported were the high turnover of the user bases on the platform studied. Moreover, analyzing a textual discourse only can be misleading sometimes as no face to face interaction is involved, and cultural differences might affect the understanding of the discourse on both parts. Finally, the ethical topic remains at the center of debates as with the internet, it still is confusing what is to be considered public information and what is not.

Similarly, this research will be using netnography to observe and better understand the gatekeeping dynamics of Twitch.tv from a participant perspective, therefore helping establish a gatekeeping network where the power relationships are redefined. Because the network is multidirectional, and the audience is active in consuming and distributing the streams, the power

each gatekeeper has becomes the result of an ongoing interactions between them. Although netnography in this research is not used in the same way it would be in a marketing research, like the ones previously mentioned, here netnography serves the purpose of exploring Twitch.tv as a social live broadcasting platform for video games, helping to establish Twitch's gatekeeping network and acknowledging the different agents that exist on the network in respect to their power positions and the way they affect and interact with one another through the use of the gatekeeping bases listed in the theoretical chapter.

Kozinets identifies a condition that is mandatory while conducting netnography that he calls "immersion" (p.84). Immersion in netnography is a process in which the researcher comes from the outside of an online community with the objective to study and research a certain phenomenon, then gradually inserts himself in the community to the point where he becomes part of it, then moves back out to analyze the set of data he could collect during this process. As previously mentioned, this comes with a couple of criticisms. As we are studying a digital network that is Twitch, the individual users are constantly changing, and thus hard to keep track of individually, hence why we study the audience as a whole rather than a group of viewers. Moreover, similarly to the previous critiques mentioned about netnography, the internet is overwhelming with data and thus limiting the choice of the community and what is studied about them is important for the immersion to focus the study on a specific network or community.

As for this thesis, as I have been part of the Twitch community since it launched back in 2011, and have been actively participating in the platform ever since, immersion in the platform and the community is something I have experienced gradually. This increasing interest and involvement within the Twitch online community was the first motive to conduct an exploratory research on the online platform. The second motive being the rising popularity of Twitch as a

platform and its evolution since 2011. Finally, the fact that netnography provides a specific methodology to analyze this kind of digital networks enabled me to study the topic in a structured way, to use the already acquired knowledge, and collect new one.

Hence, for this research, I will rely on two of the three major types of netnographic sets of data identified by Kozinets (p.165):

1. *Archival data*: it consists of data that is collected through the means of online sites of media. These extend to a selection of online websites, blogs, review sites, corporate websites, online forums, and web communities, all revolving around Twitch. These resources helped in gaining a better understanding of how Twitch works as a platform, who are the different stakeholders, how do they all interact with each other. The focus was targeted at the sites about the game publishers, Twitch involvement in promoting streams, and the Reddit platform in the Twitch subsection where several threads concerning Twitch and its users is discussed by the community.
2. *Produced data*: it consists of the screenshots and field notes while observing and researching the mechanics by which Twitch works as an online platform to identify and understand the different gatekeepers involved on it and how they affect each other, then ultimately how they affect the streams view counts. The produced data is the participant observation data collected by the researcher while immersing himself in Twitch.tv platform and using it from a viewer's perspective that becomes part of the gatekeeping network studied. Along with the participant observation, a questionnaire was published on the Twitch Reddit subgroup to generate insights on how they use the platform and if they are affected by other gatekeepers, the number of participants was 201 that were part of a random sample. This part of the research constitutes the primary data collected,

analyzed and used to draw the gatekeeping network studied, identify the different stakeholders involved, and understand the dynamics between them to understand where the viewer stands in this network and how much power he holds.

Thus, to best address the research question of how do the gatekeepers influence the popularity of the streams in Twitch, the methodology was conducted as follows:

- To understand how gatekeepers affect the popularity of the channels, archival data was used along with produced data in the form of screenshots in Twitch, because the data studied is in the form of audiovisual broadcasted content that is either live or recorded on Twitch. Archival data provides data that describes the actual state of the art of Twitch and its different gatekeepers. Analysis of field notes serves (written observations and selected screenshots) to complete what is lacking in the archival data as a form of primary data directly observed on Twitch and on forum threads. Hence, direct participation of the researcher, field notes, and archival data helped gain a deeper understanding of the power positions in Twitch to elaborate the gatekeeping network in relation to Twitch. While using Twitch, several mechanics such as channel promotion, recommendations, early access releases, cross platform channeling, were identified and thus the focus of the screenshots and analysis was directed towards capturing these moments and relate them to the gatekeeping bases identified in the theory.
- To establish the power position of the audience itself in the gatekeeping network on Twitch, is to draw conclusions from the elaborated new gatekeeping network model and to analyze the findings of the questionnaire to generate insights as to which gatekeeping bases are used by the audience who watches and uses Twitch daily, but also if bases used by the other gatekeepers affect the viewers and how. This will help prove the changing

dynamic of the network the distribution of the power of influence between all the gatekeepers, including the audience, which is the target of all other gatekeepers as the popularity of a stream is the audience watching it.

Data collection

Reflective Data:

As it was previously mentioned, I have been involved in the use of Twitch since in launch in June 2011 for my own interests and entertainment. This early immersion in the Twitch community has helped me gain better understanding of the platform and how it works; it also helped me witness its evolution throughout the years to become the popular leading online streaming network for video games that it is today. For data collection, this could be considered as an asset; however, none of this cumulated knowledge about Twitch has been recorded nor archived as it started years before this master's thesis nor was it directed towards answering a specific set of research questions, it was just general knowledge acquired with the experience of being a daily user and a member of the online community. Nonetheless, it serves as a basis for insight and comparison between Twitch today and Twitch back then.

Hence, the official reflective process took place over a period of 10 months (January 2017 to October 2017). During this period, I have been using Twitch and participating as a regular user; however, this time with a focus on identifying the gatekeeping network, the gatekeepers, how they interacted with each other, which gatekeeping bases were used by each one, how they try to draw viewers to the streams, and how the popularity of the streams is the result of a negotiated influence by all gatekeepers including the audience.

This reflective process included taking screenshots of personal observations, visual clues proving the use of the gatekeeping bases used by the game publishers, streamers, and Twitch; and reflections of my own participation on the platform and how it was affected by the

gatekeepers identified. This was then followed by the online survey which was intended to discover what bases were used by the audience, and how they were affected by the bases used by the other three gatekeepers mentioned above.

Moreover, and because the research is about understanding the gatekeeping mechanics that happen in Twitch while using the gatekeeping network model, all the observations are in relation to the platform itself rather than the participants; however, the participants talk, write, comment about these gatekeeping mechanics without necessarily naming them. Thus, observing threads, posts, discussions on Reddit, and reading selected articles online helped in building a better understanding of the gatekeeping network and the gatekeeping bases used on Twitch.

The moderators of the Twitch subreddit were contacted and they granted their consent to conduct netnography on the Twitch subreddit if the data collected through participant observation would remain anonymous

An example of this process combining the reflective data and the survey results in practice would be capturing the home page of Twitch to analyze its different sections. It includes a recommended channels section, a featured channels section, a most viewed game channels, etc. Capturing these and analyzing them in relation to the gatekeeping bases shows the use of the channeling, timing, and display bases, alongside recommendations by Twitch to redirect the users opening their website to certain streams and thus polarizing the audience around these streams. However, this would need to be confirmed by surveying the Twitch viewers to see how many of them are affected by the previously mentioned bases, and how many ignore them and rather are rather independent in their choice of consumption.

Online Survey:

The online survey relied on an online questionnaire intended towards the Twitch viewers: the audience. It was used as a primary data for researching the last gatekeeper of the network: the

audience. Since the game publishers, the streamers, and Twitch all target the viewers with their gatekeeping bases used, the audience might seem to be subject to their influence. However, as the audience seems to play an active role in choosing what to watch, when to participate, and how to share; the survey is intended to investigate how much of this is true and how much is not.

Netnography is about exploring and understanding the behavior and attitude of cultures and subcultures; pairing netnography with descriptive statistics would help grant quantifiable findings from the daily users of Twitch: its audience. Since this research is trying to understand how the gatekeepers influence the streams popularity, surveying the audience itself helps gain a deeper understanding of the spectators' behavior on Twitch, and establish how they affect and are affected by other gatekeepers in the network.

The survey (Appendix A) was first piloted with 6 respondents, and after their feedback, a few questions were changed, while other were dropped from the survey. The survey was designed with the use of SurveyMonkey and was advertised in the Twitch subreddit (sub section in reddit), alongside the subreddit of the top 5 most viewed games on Twitch at the time. Because the survey is about the behavior of the viewers while using Twitch, their demographics nor the games they watched were of little importance to the results sought. The survey was published on 1st October 2017, and remained online for a duration of four weeks. During this period, N=201 participants took the survey; however, the participation rate was 71% resulting in 141 completed surveys that were used to move forward with the analysis. The remaining 29% were discarded as they were incomplete and could have biased the results and the analysis. A consent and privacy form was also included at the beginning of the questionnaire.

The survey was built relying on multiple choice questions and likert scales to minimize the risk of misinterpretation, and rather ask questions with the intent of proving the use of

specific gatekeeping bases (Selection, Disregard, Channeling, Participation, and Timing); while other questions were intended to discover if the viewers were subject to the gatekeeping bases used by the other gatekeepers in the network. Table 2. Shows an example of this process:

Question	Answer Type	Gatekeeping base sought
What type of game streams do you watch on Twitch?	Multiple choice	Selection
How do you discover new streams to watch?	Multiple choice	Channeling
How likely are you to watch channels hosted/sponsored on the home page of Twitch?	Likert scale 1-5	Disregard

Table 2. Online questionnaire design

Finally, SurveyMonkey was used to generate graphical representations and statistics for each question that were then analyzed in comparison to the gatekeeping bases in Table 1. As the same bases were used to qualitatively code the reflective data, this enabled the results from the survey to attribute to the audience the bases they used, and the bases they were affected by.

Data Analysis

The analysis of the data will be a combination of both results from the netnography and the online survey results. Because this is a netnography, the nature of the analysis will be building is inductive and abductive; the objective of this data analysis is to explore the gatekeeping dynamics on the Twitch platform and how they affect the power positions in the gatekeeping network. Induction is defined as a practice “in which individual observations are built up in stages, ordered deliberately and deployed to make general statements about a phenomenon” (Kozinets, 2010, p.199). Hence, abductive and inductive reasoning are essential in analyzing the data to elaborate a first approach and understanding of the phenomenon. The methodology followed was qualitative coding where the previously listed gatekeeping bases

were used as qualitative codes to regroup the screenshots and the fields notes under specific categories that show their use by the gatekeepers. The data was polarized around specific bases, as these bases are more involved with this specific case (Channeling, Selection, Display, etc.) while others were not used by the gatekeepers, or if so had little use and influence compared to the ones mentioned above.

Moreover, because I am combining netnography and questionnaire, Kozinets suggests pairing the two as a form of "collage" (p.199) to develop a general understanding of the phenomenon while using the collected data a punctuation to back up the findings developed. Therefore, the online questionnaire was designed with the intention of demonstrating the use of gatekeeping bases by the viewers, and if the bases used by the other gatekeepers were influencing them.

As for the actual process of analysis, I will apply the Interpenetrating model that Kozinets suggest in his methodology to analyze, interpret, and link the findings to the theoretical framework to answer the research question. The methodology is constructed in seven steps. these steps go as follow:

1. **Imagining** is where the researcher combines his own understandings and ideas with the field notes collected to start linking thoughts to the field notes collected during the netnography.
2. **Re-Memorying** is a self-reflection of the immersion period of the researcher in the community. It consists of a memory exercise to remember, connect, and associate observations with ideas and theoretical concepts.

3. **Abduction** goes as a pair with induction as previously mentioned. This step consists of bringing together the observation notes and the reflective data to try and draw meaning out of them.
4. **Visual abstraction** is where the researcher decides what to keep and what to discard in terms of data. Data collection can end up with enormous amounts of data, especially with what the online world offers. It becomes then tricky to decide what to keep and what not to, what is relevant and what is not.
5. **Artifying** is another type of visualization of the data that consists in considering new ways of thinking about the data collected through association and dissociation. In a way, it is a sort of artistic combination of the data to draw relevant meaning out of it.
6. **Cultural decoding** is a crucial part of the research as it assembles the diverse data collected throughout the netnography and the results of the online survey and combines it, trying to make sense of it all. It allows the researcher to make sense of the culture studied in the community observed.
7. **Tournament play** is lining up all the findings of the research to select only the relevant ones, the ones that fit the theory and represent interesting enough findings to be reported and elaborated upon. This is the part where the researcher discusses his findings and how they make sense in his theoretical framework, but also how they open the field to further research in the future.

This analysis process relies mainly on the use of cultural coding. A first list of codes was established earlier in the theoretical framework. It relies on the list of codes that represent the gatekeeping bases used by the gatekeepers to affect the popularity of the streams on Twitch. This list includes: Selection, Addition, Withholding, Display, Channeling, Shaping, Manipulation,

Repetition, Timing, Localization, Integration, Disregard, and Deletion. These gatekeeping bases were used as codes to analyze the screenshots captured during the netnography. They served to establish the gatekeeping bases used by both the institutions and the streamers in affecting the streams popularity. Codifying this qualitative data collected enables the data to be "segregated, grouped, regrouped, and relinked to consolidate meaning and explanation" (Grbich, 2007, P.21). This process will help identifying which bases are used by which gatekeepers and further help me establish a ranking of the gatekeepers based on who uses the most in trying to affect the streams popularity in the network.

To have a basis for comparison, the same codes were used while designing the questionnaire to draw conclusions regarding which gatekeeping bases were used by the audience in affecting the streams popularity and which ones they were affected by as an audience, since influencing the popularity of a stream is influencing the audience watching these streams. Conducting an online questionnaire was more relevant to my study as it would provide me with insights from a large pool of the Twitch audience which is harder to grasp through user observation for instance. The intention behind using a survey is to generate descriptive statistics that help establish the gatekeeping bases used by the audience to enable me to compare them based on the codes used with the other gatekeepers in this network.

In this context, the analysis will first combine the results from analyzing the archival data analysis and the participant observation, a first set up of the power relationships between the different agents of the network regarding the streams will be analyzed to explain how these gatekeepers affect the streams popularity. Then the results of the questionnaire will draw conclusions as to what role does the audience play in the network. Finally, a table will be drawn showcasing each major gatekeeper in the network and the gatekeeping bases (codes) exercised

by them over the streams before explaining how the network is set and how the gatekeepers all play a role in a dynamic that rules the network rather than influence the streams individually. This combination of results will help better understand the new position of the audience in the gatekeeping network not as just gated agents, rather as an active gatekeeper of the network that can actively affect the rising popularity of live streams on Twitch.

Results and findings

During the data collection process, four major gatekeepers that influence the popularity of the streams were identified. As institutions, game publishers and Twitch were the most prominent, streamers as networked individuals and major influencers, and the general audience who watches the streams as everyday individuals who use the social network. Thus, in order to answer the central question of through what gatekeeping bases does the audience affect the popularity of the streams and how does it compare to the other gatekeepers, I will draw a comparative table of how which gatekeeping bases (see Table 1.1) are used by each gatekeeper in order to rank and compare them and draw conclusions as to how prominent is each of them in the network, then I will establish the gatekeeping bases used by each of these gatekeepers in relation to the streams,. These findings explore the complexity of information control in a networked digital platform of live streaming of video games that is Twitch.

	Game publishers	*Twitch*	*Streamers*	*Audience*
Selection			x	x
Addition			x	
Withholding	x		x	
Display		x	x	
Channeling	x		x	x
Shaping				
Manipulation				
Repetition	x			
Timing	x		x	x

Localization		x	x	
Integration	x		x	
Disregard				x
Deletion		x		

Table 3. Summarizing table of the gatekeeping bases used by the gatekeepers involved in the Twitch network

Table 3. summarizes the gatekeeping bases used by the gatekeepers involved in the Twitch network. Along with these, I also found out that other potential bases were used by some of them with the objective of exercising information control under the form of raising the viewer of certain channels at the expense of others. These new bases include **early access** and **sponsoring** used by the game publishers, and **participation** concerning the audience. These new bases, because of their importance in the case of Twitch.tv and how the network works, could be proposed as a first theoretical contribution to extend the list of gatekeeping bases based on the case studied: Twitch.tv. Through this study not only did I discover what gatekeeping bases listed by the theoretical framework were used in the gatekeeping network, but also found new ones that represents important dynamics by which game channels and individual streams attract large audiences in Twitch.tv.

What has been noticed is that streamers are the most active gatekeepers in using the bases in terms of how many bases are used by each gatekeeper. It has been also noticed during the netnography that they are the most active in promoting their streams and building their audiences. While trying to answer the question as to how do the gatekeepers affect the popularity of the live streams on Twitch, it appeared that the power positions of the gatekeepers were

defined by their position as either content makers or content consumers. However, the popularity of the streams is the result of the involvement of all gatekeepers rather than one being more influential than others. It is difficult to say to determine who has the most power and who has the least, as the multidirectional gatekeeping network model makes it so that every gatekeeper's actions, under the form of gatekeeping bases used, affect the streams' popularity.

The bases listed above have little influence when used independently, rather they work as a constructed whole where it is the combination of several bases that reflects on the popularity of the channel. Hence, in the analysis sometimes the bases are analyzed in pairs of two or more because they are combined in their use.

Throughout the participant observation and document analysis conducted, a general understanding of how Twitch as a network works was established. This was the first step towards establishing its gatekeeping network and collecting the relevant data to be analyzed. The thirteen gatekeeping bases listed above were then used as qualitative codes to categorize the data in identify which bases were used by each gatekeeper as an attempt to exercise information control over the streams thus affecting directly their popularity. However, for the central part of this thesis' research, the findings of the online survey will be presented and analyzed since it was designed to directly generate insights from the audience itself as to what gatekeeping bases they are using and are affected by while using Twitch.

The following findings will be presented in four parts: first the influence game publishers have on the popularity of the streams, then the influence of Twitch, the streamers, and finally the audience. Each part will then have several sub parts discussing every gatekeeping base used by these respective gatekeepers. Finally, a summarizing table will be drawn to rank the gatekeepers

and generate insightful findings that challenge and contribute to the theoretical framework established previously.

Institutions → Streams

During the participant observation, it appeared that game publishers and Twitch were both very influential when it came to the information control they both exercise in the network. In the following sub sections I will discuss how each of them exercise information control and affect the popularity of the streams broadcasted in Twitch in helping draw larger audiences to certain channels based on the gatekeeping bases they each use to their benefit.

Game Publishers

Being the content makers and providers, game publishers play an active role in the rise and success of streamers and their respective streams because they develop and publish the games being played and streamed. These are then played by streamers (networked individuals) who try to differentiate the way they play and broadcast their play to stand out from the rest. They split into amateur streamers, professional streamers, and entertainers, each addressing a different type of audience.

With the success of Twitch, even the way games were advertised started changing with an increasing use of Twitch to promote existing games and upcoming ones. Back in 2014, both Microsoft and Sony announced there would be a Twitch integration in their respective consoles the Xbox one and the Playstation 4 to facilitate even more streaming on Twitch directly from the gaming consoles. Following the Ps4 launch in 2014, Twitch's former vice president of marketing DiPietro reported that "Playstation 4 owners responsible for 20 percent of all Twitch broadcasts from December 23 to Jan 3" (Crecente, 2014). This was the result of the combined efforts of game publishers, Microsoft, Sony, and Twitch that stimulated and affected positively the rise of several new console streamers. This shows the use of **integration** as a gatekeeping base that not

only made it possible for new console streamers to rise but to increase their popularity as well by drawing console players as a potential audience for them to Twitch. Similarly to the integration of Twitch's app in the consoles, a Twitch hyperlink and section is most often found in the games official websites advertising either the game's official Twitch channel or recommending and redirecting players towards other players streaming the game live on Twitch. This gives Twitch more visibility, and provides the users (both streamers and viewers) with an easier integration of Twitch on their platforms.

To increase the visibility of their games, game publishers rely on their own official Twitch channels, but they also try to advertise and promote other streamer's channels who are playing and streaming these games. An example of the first case is the popular Riot Games' official Twitch channel who draws tens of thousands of viewers when it is online because it is the eSports channel where viewers can see and follow all the League of legends eSports competitions. The Riot Games Twitch channel shown below has cumulated over 900 million views for its several eSports events since its launch 5 years ago, and that is thanks to their growing player base: 11.5 million in 2011, 100 million in 2016 (UnrankedSmurfs, 2017).

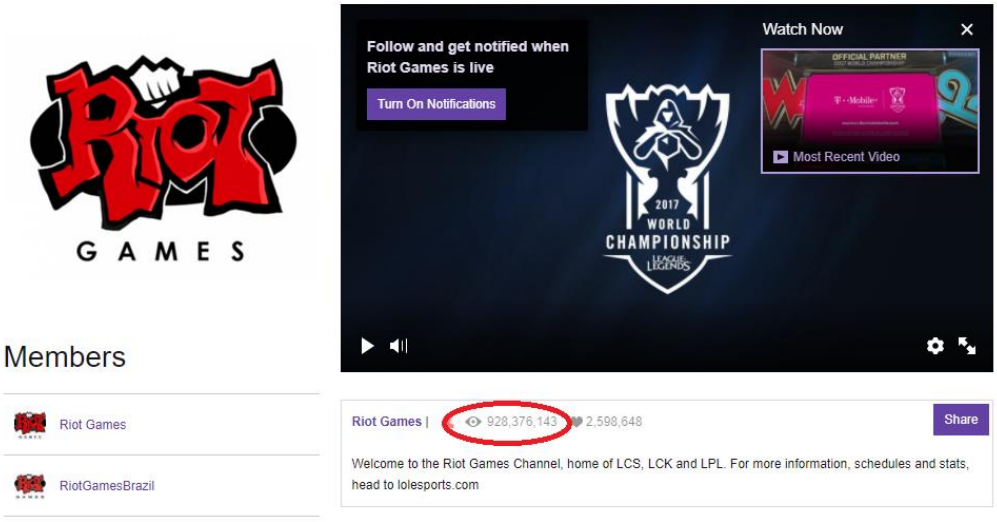

Figure 7. Riot Games' official Twitch channel view count.

The screenshot captured shown in Figure7. showcases how a successful game publisher relies on the popularity of its own game to popularize its streaming channel by **channeling** and converting the audience that plays the game into an audience that also watches the game being played. Riot Games, like other similar popular game studios (Valve, Blizzard Entertainment), are heavily invested in eSports and already benefit from a large base of players of their own games making it easier for them to be popular while streaming via their official channels on Twitch.

However, other game publishers promote their games differently to draw the audiences towards their games channels. The second case then being promoting their games and content relying on the already existing networked individuals who are streaming their games on Twitch. While actively observing and participating in the use of Twitch.tv, I managed to identify two major way game publishers use to draw audiences to watching streams of their games and thus increase the audience size of the streamers streaming those games. The first one is sponsored streams. This is when a streamer with an already existing base of followers and viewers is being sponsored by the game company to play their game while at their peak audience for the game to gain more visibility.

Similarly to other marketing strategies, this results in the streamer becoming an opinion leader for his own community and plays the role of a bridge between the game companies and the audience drawing not only viewers to watch the game being played, but often resulting in him or her recommending the game to their respective viewers which can lead to these viewers acquiring the game and playing it themselves. Figure 8. below shows how a sponsored stream can popularize a game just because a popular streamer is playing the game. The famous streamer LIRIK is accounting for more than 90% (32,571 viewers versus 538 viewers for the second most viewed stream in the section) of the total viewership of the game channel at the time because of a

sponsored stream to play the game resulting in the game channel appearing in the top 10 games played on Twitch at the time.

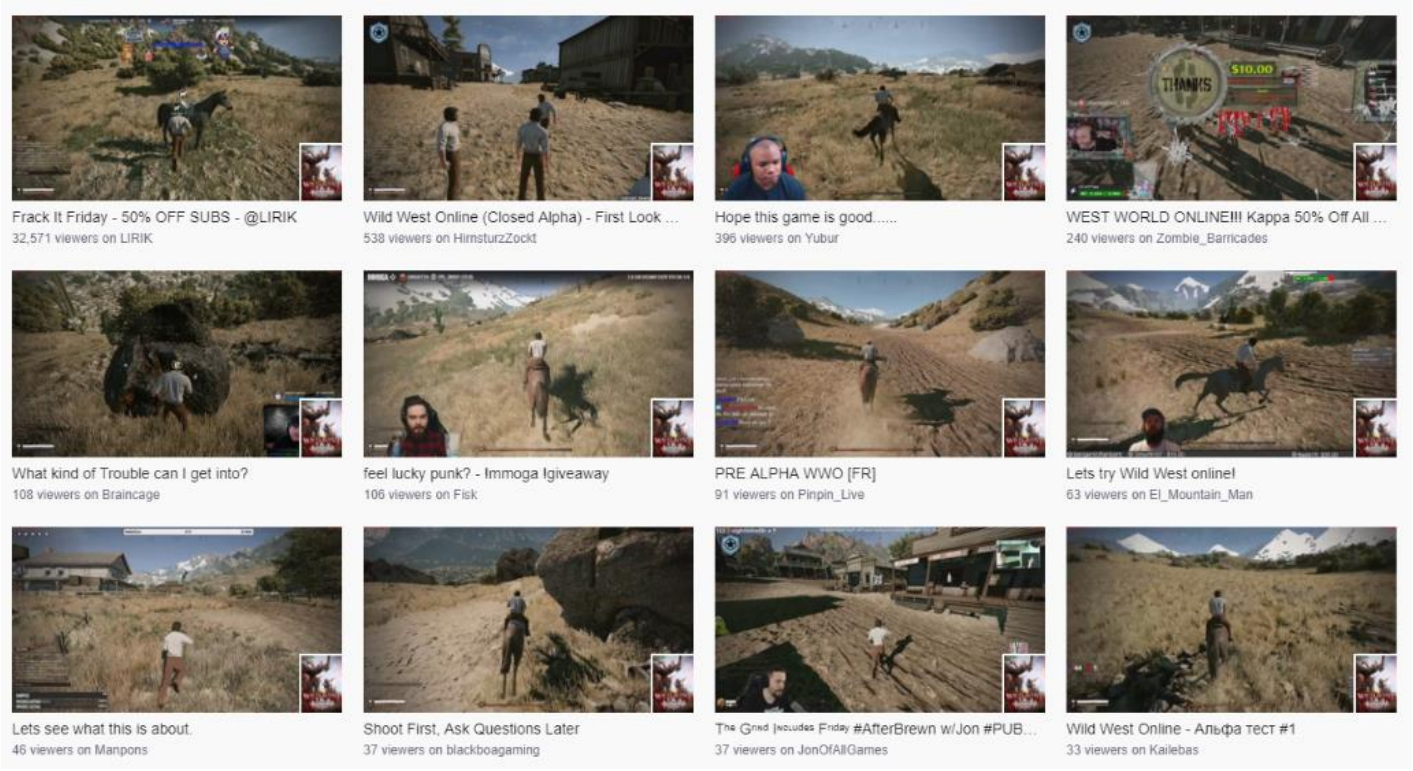

Figure 8. View count of Lirik playing a sponsored stream

The second one is a method that is being used more widely lately by video game developers to raise awareness of their games and increase their popularity upon the gaming communities. Combined with sponsoring streamers to play the games, game publishers offer **early access** to their games before release to increase their popularity and visibility before the official release. A recent example shown in Figure 9. below is the early access offered by EA Sports of Fifa 18 one week before the official launch. This resulted in FIFA 18 ranking in the top 10 game channels in Twitch one week before its official launch; hence, FIFA 18 being the only game without its official cover on the list.

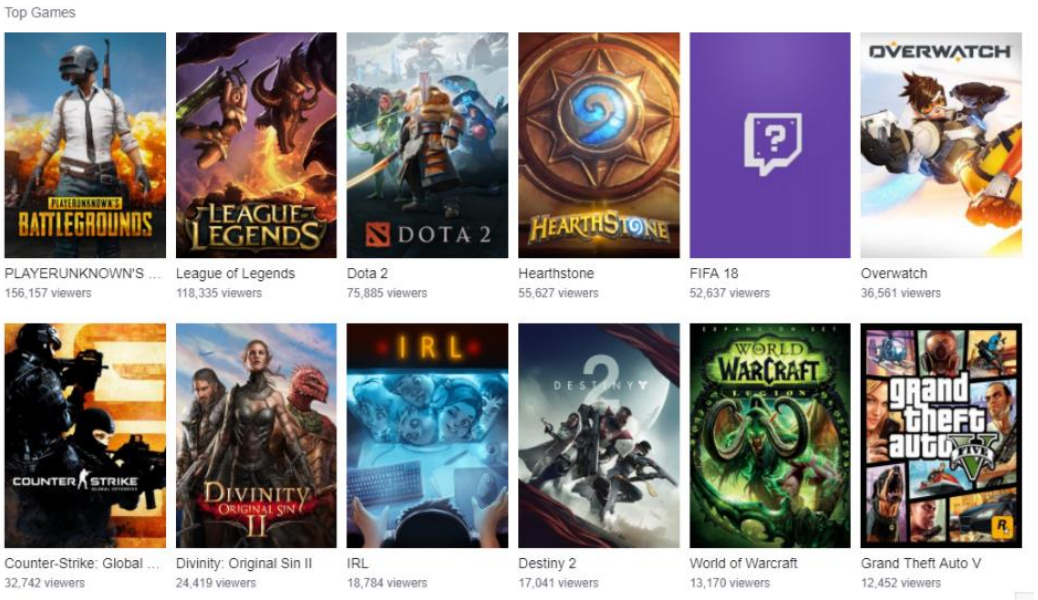

Figure 9. FIFA 18 rising to top 10 most popular channels in its early access

Viewers tend to be attracted by new content offered by streamers, just like popular variety streamers tend to play the new games before or upon release to offer new content to their respective audiences. In the same screenshot presented above, Destiny 2, a game recently released by Activision is also appearing in the top watched games on Twitch because of its fresh release. Slowly with time these games drop out of the top watched games as new games come out or as viewers go back to their old viewing habits.

By doing this game developers affect the popularity of their own games channels on Twitch and increase considerably the audience size of the streamers playing their games. These add up to the integration base stated previously, in the form of gatekeeping bases that rely on sponsoring and exclusive content under the form of early access. Although the last two do not appear in the list of gatekeeping bases in my theoretical framework, they emerge as a first addition that will be discussed later in the theoretical contributions.

A pair of gatekeeping bases used by the game publishers involved in eSports is **timing** and **repetition**. This is directly correlated with the eSports events they hold regularly throughout

the year. eSports events are what draw the highest peaks of audiences on Twitch.tv as large numbers of viewers gather around the official channels to watch the tournaments from all around the world. Timing becomes important because the audience for these video games is international; however, the physical location of the events determines the time zone in which the events will take place. For that matter, both timing and repetition under the forms of live streaming and several rebroadcasts online are used by the game publishers to draw more audiences to watch the competitions on Twitch regardless of their physical location. A current example for this is the ongoing World Championships of League of Legends by Riot Games which is taking place in China. It is streamed live during the event and but is rebroadcasted several times during the day to allow viewers worldwide for whom the time zone difference does not allow to watch the live stream to catch up with the events. While the live events gathered around 100,000 viewers, the rebroadcasts fluctuated between 10,000 and 30,000.

On top of integration, channeling, timing, and repetition, game publishers can have more conservative approaches when it comes to how they protect their games. Using the **withholding** base allows them to prevent the live stream of certain games or specific parts of their games. Atlus, the game publishers of the video game Persona 5, released very strict guidelines towards streamers prohibiting the live stream of the game past a certain in game progression (Allegra, 2017). Although withholding is rarely used as it affect negatively the popularity a game can have while streamed online, it still can be used to protect the game from spoils to the people who want to play it.

This combination of gatekeeping bases (integration, channeling, timing, repetition, withholding, sponsoring, and early access), the game publishers seem to hold a strong influence over the network as they are the content providers for the streamers, but can also become

streamers themselves when they stream on their official channels. This is interesting because it is a dual mechanic for promoting their content, and thus drawing more audiences to their products. In terms of power in the network, Game publishers seem to pull their weight; however, as previously mentioned, the network is constructed in such way that the popularity of a channel is the result of every gatekeeper's actions. Hence, the second part of the analysis is an approach to understanding the role of Twitch itself in the network.

Twitch.tv

Twitch being at the heart of this study, it is the digital social platform where the gatekeeping bases are exercised and where all stakeholders' interests meet. However, Twitch has proved to be quite influential in the popularity of the streams available on the network and how audiences are directed towards certain channels using four major gatekeeping bases.

Display is the first gatekeeping base used by Twitch. When opening the Twitch.tv page, the way the home page is designed is intended to promote certain streams while providing the users with a friendly design to navigate throughout the several channels available live. Several sections are available in the home page that serve as visual clues for the users to navigate throughout the platform. A "followed channel" help the viewers access easily the streamers and channels they followed previously on the left side. Along with that, the top games channels are mainly what it used to navigate throughout the game channels and the live streamers playing and streaming.

The featured channels displayed on the home page tend are a way for Twitch to promote selected channels or streamers. Figure 10. Illustrates this offered section displayed on the home page of Twitch to draw the users to check them out and promote them to the general audience watching and using Twitch.

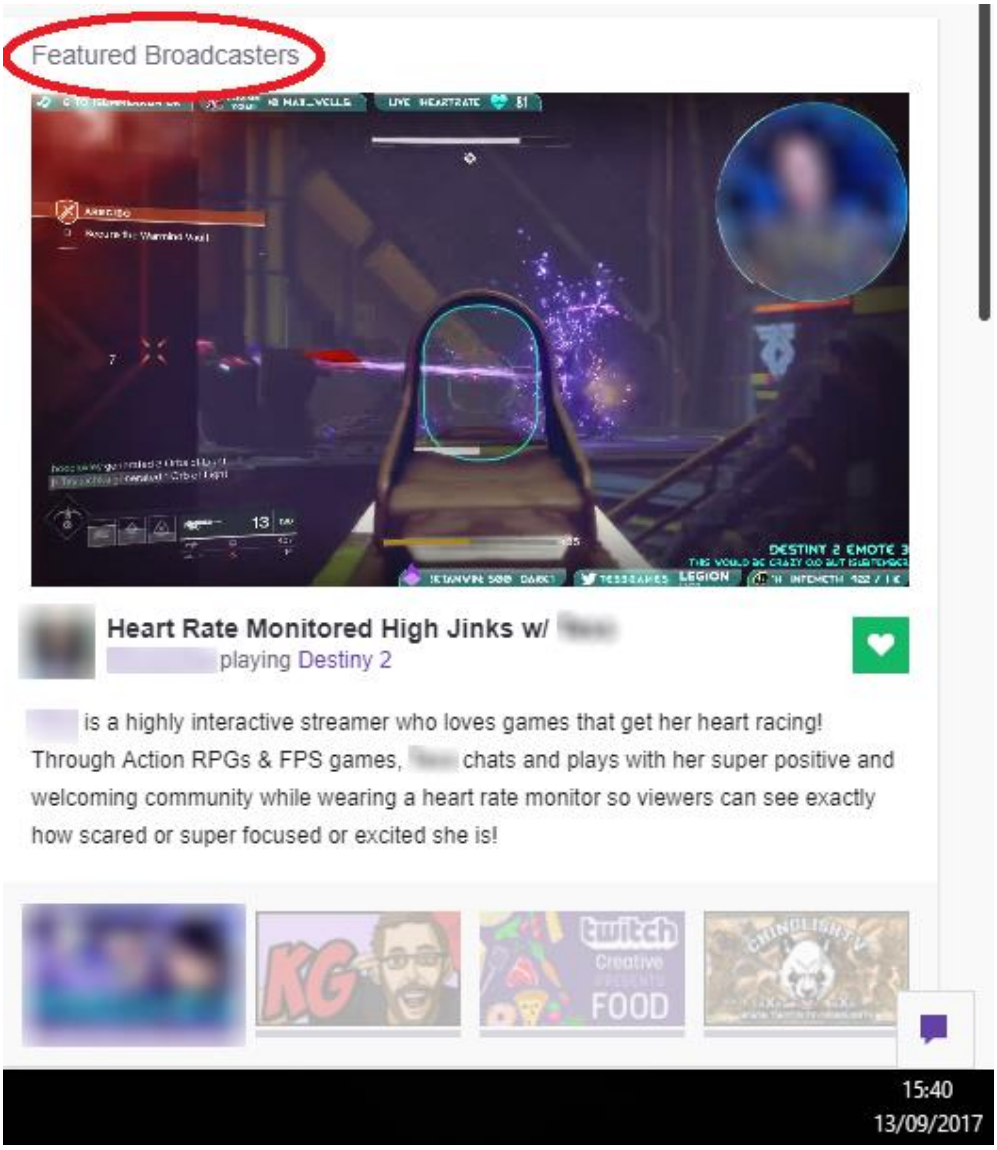

Figure 10. Featured broadcasters on the Twitch home page

These range from game talk shows, exclusive eSports events, charity events, or just promoting streaming partners of Twitch. In the following, I captured the view count of a twitch partnered streamer to show how Twitch plays a non-negligible role in increasing the popularity of certain streams with the use of the featured channels sections displayed on the home page.

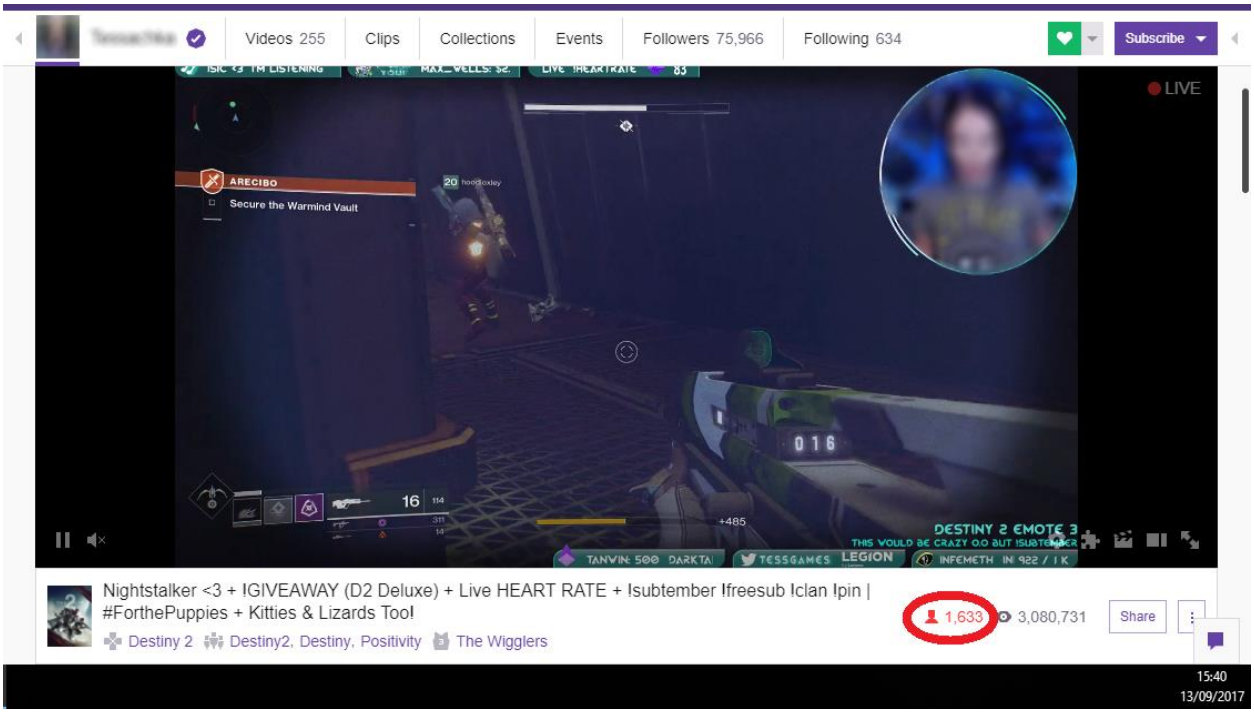

Figure 11. View count of a streamer featured in the Twitch home page

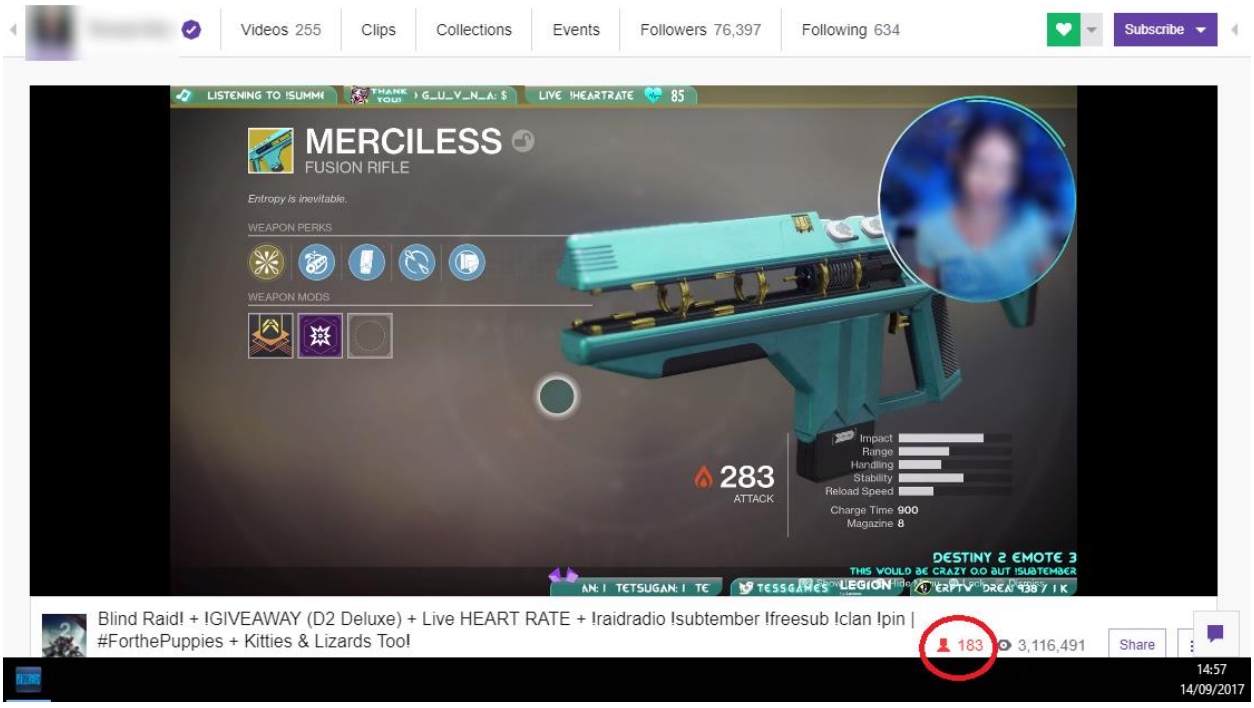

Figure 12. View count of same streamer while not featured in the Twitch home page

Figure 11. and Figure 12. have been selected to show how Twitch can increase the popularity of a twitch partnered streamer by featuring them on the home page. As one can notice on the captures, there is a difference of almost 10 times the number of viewers from the day when the streamer was featured on the home page during her streaming hours, and the view count during the same time the following day. The only difference being on day two the channel was not featured on the home page. This shows how Twitch can use display as a gatekeeping base to promote and popularize channels and streams by showcasing them to the viewers on the home page to draw their attention to some channels they wouldn't see otherwise.

In addition to display, Twitch uses the **localization** gatekeeping base as well to make it easier for viewers to find channels in their own languages. As mentioned previously, Twitch is a multinational social network in which streamers from all around the world stream their live gameplays or talks for viewers to tune in and watch and participate. Hence, there are several languages as the hub is one central platform in which streamers from different nations and time zones log in to stream. The localization gate is then used as an attempt to bring closer viewers with channels in their respective home languages, although English remains the main language for the streams as it is a universal language in the gaming community, but makes it also easier for streamers to address more viewers that do not speak or understand the streamer's home language. The following two screenshots in Figure 13. and Figure 14. show how the Featured Streams section differs between two different geographic localizations, one from Finland the other from Morocco at the same time. The two figures show how Twitch is involved in promoting different channels and game streams based on the geographic localization of the audience watching. This can significantly influence the popularity of certain live streams per region around the world.

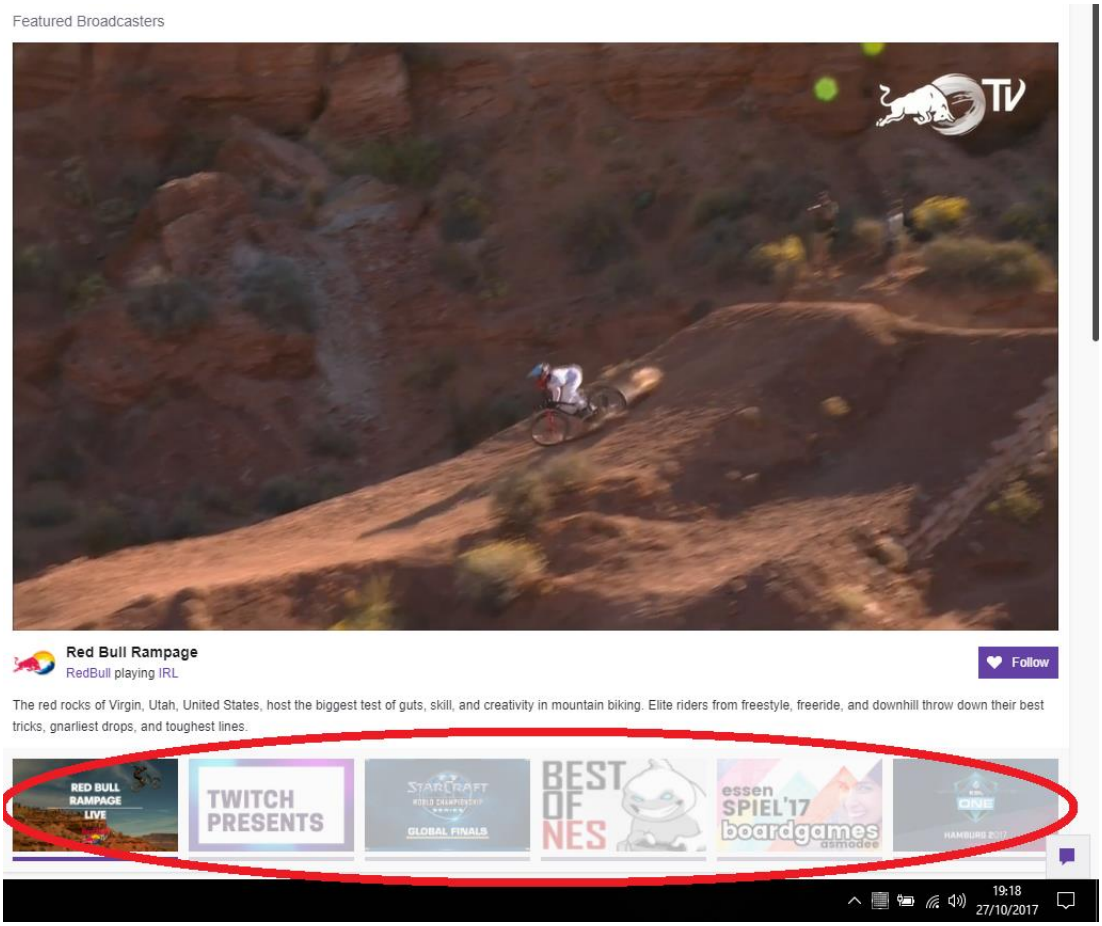

Figure 13. Featured broadcasts from a Finnish localization the 27/10/2017

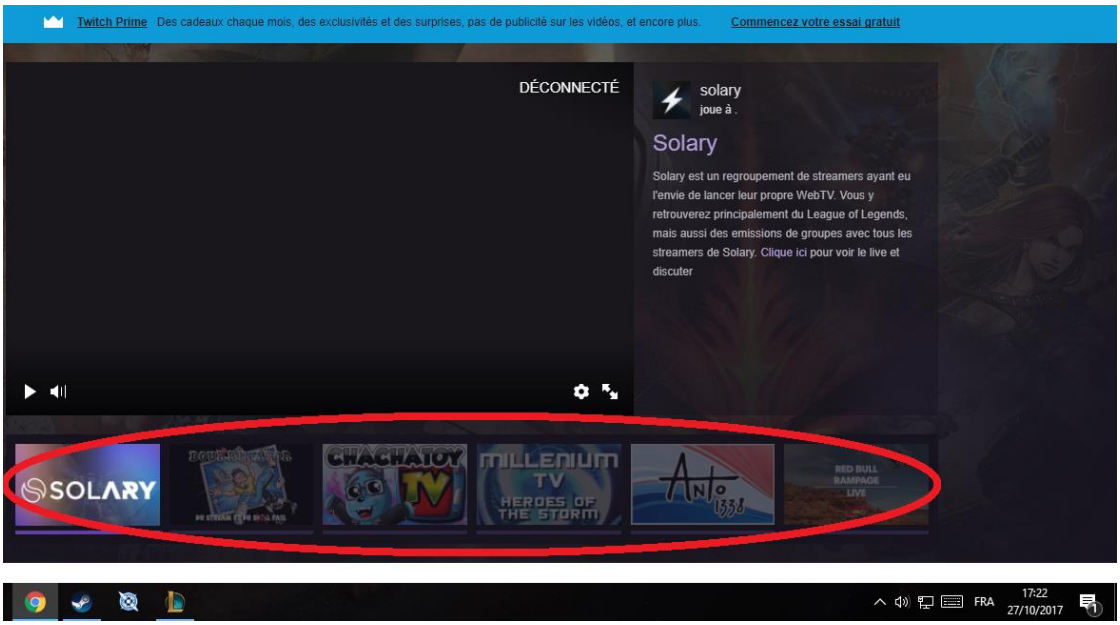

Figure 14. Featured broadcasts from a Moroccan localization the 27/10/2017

Alongside display and localization, Twitch, just like similar other social networks and online commercial websites, offers and relies on a **recommendations'** algorithm that generates to viewers recommended channels, streamers, and videos based on the channels they are following, the videos they like, and their browsing history as shown in Figure 15.

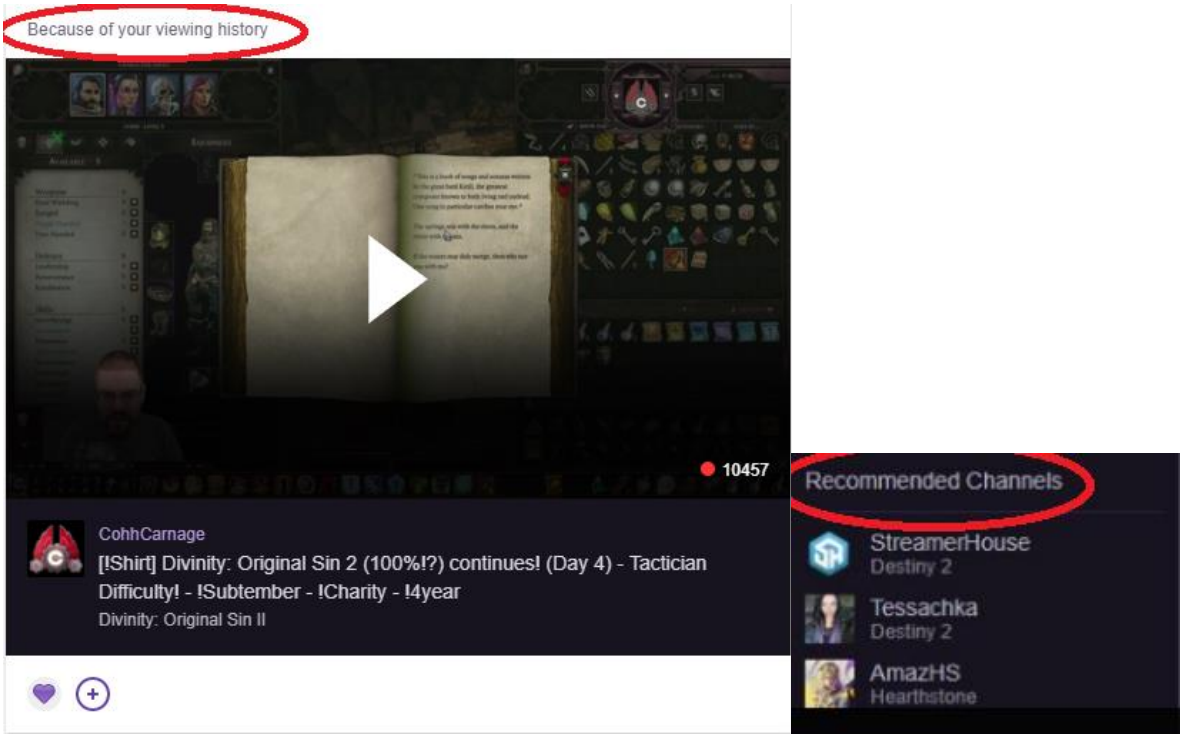

Figure 15. Twitch recommendations algorithms based on users preferences

This proves to be an efficient way to lead and conduct viewers towards new channels they might like, contributing to the spread and increase of popularity of other streamers as well. Although "recommendations" is not defined by the theoretical framework as a gatekeeping base, in the case studied it appears to be a potential new base because of its relevance and importance in a digital network like this one.

Finally, the last gatekeeping base used by Twitch is **deletion** (or censorship). This is a base that negatively affects the popularity of channels but it is what makes Twitch keep control over the content offered on its platform. In a way, Twitch is acting as a regulatory force on its

network to set up community guidelines, a code of conduct, a set of behavioral expectations from streamers, and even a list of prohibited games to stream (Twitch, 2017). This shows the information control Twitch holds over the network as they decide as an institution the regulatory rules to which the network is subject. Deletion has then a censorship effect on the community to lay the ground for what (and how) is acceptable to broadcast and what is not.

Deletion joins then display, localization, and recommendations as the main gatekeeping bases by which Twitch contributes to the popularity of the streams on the network. Remembering that one of the assumptions made by Chinfook and Simmons in the theory of networked gatekeeping was that the web platform does not act as a gatekeeper itself, it appears to be the case, Twitch is challenging this assumption by reaffirming its position as an institution that influence considerably the flow of information through recommendations and promotion in its platform even if all the content is user generated. As it is part of its business model, Twitch generates more money by promoting the Twitch partnered streamers, and by drawing audiences to specific streams to increase its advertisement revenue.

Streamers → Streams

Streamers, or as referred to in my theoretical framework as the networked individuals, are at the heart of the Twitch.tv network. They are the individuals engaging in broadcasting and commenting their gameplays to draw audiences to watch them. They are responsible in a way for their own success in how they build their network, build up their audience, and most importantly retain it. These streamers can be professional streamers, amateur ones, professional video game players, or variety streamers. They engage in creating live content by playing video games and commenting their gameplay live, but they also engage their audiences in their streams by interacting with them or even including them in their gameplay, or offering giveaways. By doing so they engage in a wide variety of activities relying on several gatekeeping bases to increase

their own channels popularity and maintain it at high levels. The objective being for most of them, becoming popular enough to become partnered with Twitch and have their channels unlock the subscription option.

The first gatekeeping base used by streamers is **selection**. Streamers usually are split into two categories. Streamers that identify themselves mainly playing and streaming one game like Castro_1021 who streams only FIFA 18, or variety streamers who are open to streaming different games as they come out like Summit1G. By defining what games to stream, the streamers position themselves and differentiate themselves from other streamers by defining several factors that are key in the success of their respective channels. From choosing what to stream to how to stream it, several factors build together to provide their viewers with a unique experience that defines them as streamers and thus justifying the success of certain streamers over others in the same category of games in Twitch.

The choice of the layout of the channel is important as well. For instance, the use of a camera can play a major role in attracting audiences. Although some streamers like Nightblue3 manage to be popular in the League of Legends channel while not displaying their own self with a camera while playing, others find it very important for the audience to see who is playing as it entertains more the audience to see how the streamers acts and reacts while playing and interacting with the audience. Most popular streams have set expectations from the viewers that evolve around: seeing the streamer, having a clear view and display of the gameplay, and being interactive with the audience and to the viewers chat messages. All in all, selection defines the type of stream provided to the viewers and general audience, addition differentiates the layout of a stream from others, and integration adds more uniqueness to the content provided. Figure 16.

shows the display of Castro_1021, one of the most popular streamers of FIFA, and all the visual elements discussed above all integrated in a whole that is what the viewers watch.

Figure 16. Castro_1021 stream layout

As previously discussed in the game publishers' analysis, streamers because of their networks, attract sponsors and advertisers who are seeking to reach these viewers. Hence, the popular streamers tend to promote and advertise them while streaming as they represent a source of revenue for them as well. Viewers then benefit not only from just watching a stream but can be involved in several activities to win discounts, game codes, and other exclusive content and goodies offered by the streamers as an effort to promote their streams and retain their viewers. Along with that, Twitch partnered streamers benefit from the partnership program which gives them a subscription option for their viewers to subscribe to them monthly for an ad-free

experience and premium features. This provides the partnered streamers with an incremental source of revenue that made it possible for the successful streamers to make it a full-time job.

However, during the netnography, it appeared that the subscription plan and its effects on the popularity of the stream can have both a positive and negative effect on the popularity of the stream. Although, by offering premium content and exclusive features, streamers encourage viewers to subscribe and be more loyal to them; however, this might also discard a large population of viewers, especially those looking for a free experience on Twitch, who might decide to go to other streams with less barriers to participation. As the main tool of communication between a streamer and his audience is the live chat available on the channel, some partnered streamers decide to exclude non-subscribers from the chat as shown in Figure17. below as it encourage more people to subscribe to participate. This boosts the revenues and the popularity of the streamer and his channel.

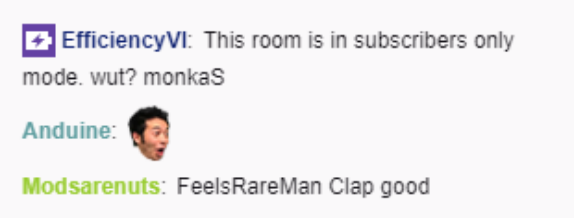

Figure 17. Subscriber only chat room in Twitch

Moreover, as Twitch allows the streamers to store their past broadcasts on the platform for the viewers to watch them again if they want to, some partnered streamers opt for the option to completely block this content from non-subscribed viewers as shown in Figure 18.

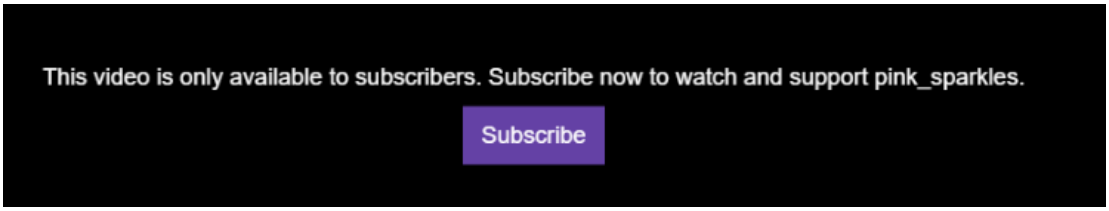

Figure 18. Subscriber only access to previous broadcasts by pink_sparkles

This comes as a withholding gatekeeping base that limits access to the content to the subscribers. The subscription plan and features becomes then a major tool used by the partnered streamers to use with the objective of promoting and popularizing their own channels in the network. Withholding in this case works more as a stimuli for viewers to subscribe to access the premium features, which justifies the times and effort spent by the streamers to provide such content for their audiences.

Alongside the gatekeeping bases exercised by the streamers as an effort to popularize their channels and encourage viewers to follow them and subscribe to them, another pair of bases come into play: **timing** and **localization**. Similarly to how game publishers use these two gatekeeping bases, streamers also decide on when to stream and who to address in their streams. For instance, streamers speaking French are more likely to address a French speaking audience, and more specifically viewers who watch and speak a similar language than the one used for streaming. Time zones matter as well, as streamers must and should stream based on when they can reach the highest viewers count. Thus, streamers establish on their own channels usually following their own availabilities, and their viewers' availability. Therefore, streamers usually have on their channels displayed a schedule for streaming as shown in Figure 19. below.

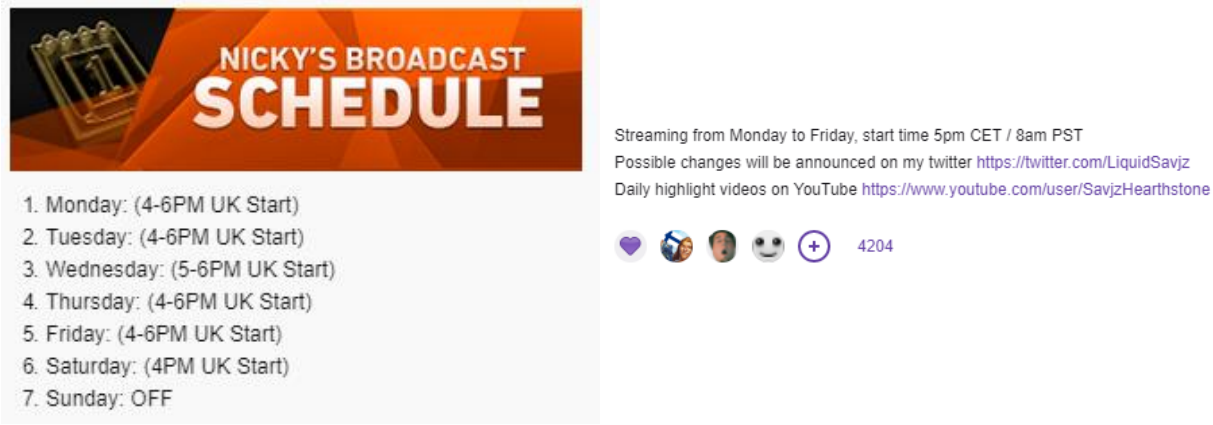

Figure 19. Streaming schedules of streamers as an application of the timing base

This brings us to the last gatekeeping base used by streamers to attract viewers to their channels when streaming. We just discussed the importance of scheduling by streamers for their viewers to know when they are streaming and available to watch. One of the screenshots highlighted a Twitter post by a streamer announcing his availabilities, while the other screenshot was part of the information package on the Twitch channel of the streamer. This shows how the streamers work to popularize themselves and their streams relying on channeling their information through cross platform tools. Streamers do not rely only on Twitch to attract viewers, they also use their social networks to promote themselves and engage with their audience.

By doing so, they integrate several tools of the web 2.0 to redirect audiences from outside Twitch into Twitch. Figure 20. shows this **integration** and **channeling** in the info page of Nick28T, another popular streamer on Twitch that uses cross-platform tools and networks to communicate and stay in touch with his audience. Twitter being mostly used for keeping the followers up to date with the offline activities of the streamers, and YouTube for content post stream and video montages.

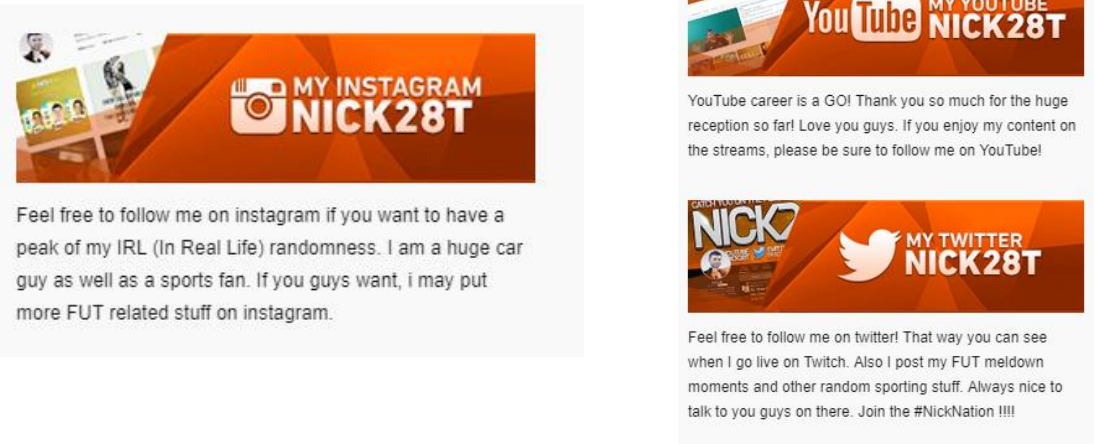

Figure 20. Cross platform used for stream promotion and audience engagement

A final way for streamers to use channeling is by promoting fellow streamers. To help each other out in gaining visibility and popularity on the channels, a streamer has the option to host another streamer's broadcast if they want to, this is a way for the streamers' community to support each other in building an audience and sub community.

This sums up the streamers part where we find out that streamers use several gatekeeping bases as they are at the heart of making the content and thus responsible for their own success. Through selection, addition, display, channeling, timing, localization, integration, and withholding, streamers seem to be the most active in the gatekeeping dynamics in the network as the popularity of their streams is vital to their success as streamers on Twitch.tv. Their power lies in their ability to use and adapt the content made by the game publishers, and build with it an audience that can translate to fandom with participation and engagement.

In that sense, the streamers are powerful networked individuals who engage in drawing audiences to their content, resulting in drawing advertisers and sponsors as well for those who become successful. However, this implies the presence of the viewers who make or break a stream's popularity; hence, the following section is an analysis of the role of the audience in influencing the streams popularity and if they are affected by the other gatekeepers efforts.

Audience → Streams

The audience, or the viewers on Twitch, are at the center of the interest of everyone in the Twitch network. Everything happening on the Twitch network has one single objective: attract as many viewers as possible. Game publishers want to have their games become popular by raising their view counts, streamers want to build successful channels by drawing and retaining large audiences, and Twitch seeks to monetize these viewers through its business model described in the case presentation previously. This makes the audience a valuable and mandatory asset to the success of Twitch through the success of the available live streams on the platform.

The audience has been part of the analysis of the previous gatekeepers on how they are subject to the gatekeeping bases used by game publishers, Twitch, and the streamers to draw them to their content. However, the audience itself plays an independent and major role in the popularity of the streams in Twitch. The audience is considered to play an active role in the consumption if media content rather than a passive one. This applies to my case where the audience plays an interactive part in the popularity of the live streams broadcasted in Twitch through different means. The viewers represent the community of Twitch that is responsible for making or breaking a stream. In the web 2.0, the participatory effort of the community is what makes user generated content rise in popularity or fade in the archives. For this matter, an online questionnaire was used to determine what gatekeeping bases were used by the viewers that would affect the popularity of the channel, but also to determine if they were affected by the previous gatekeepers' strategies to draw them to their content.

Following the questionnaire conducted, it was concluded that the audience relies on several gatekeeping bases that they use to choose what streams to watch and share. This process is what ultimately results in the popularity of a live broadcast on Twitch because the behavior of the audience in choosing what digital stream ton consume is what ends up reflecting on the popularity of that selected stream.

Because the viewers are the consumers of the digital content offered on Twitch.tv, **selection** is a defining gatekeeping base used to select what to watch and when to watch it. Choosing what to watch on Twitch is the result of several sub decisions that involve what game to watch and what streamer to watch. When asking the viewers if their selection decision was based on the game or the streamer, the results were as follow:

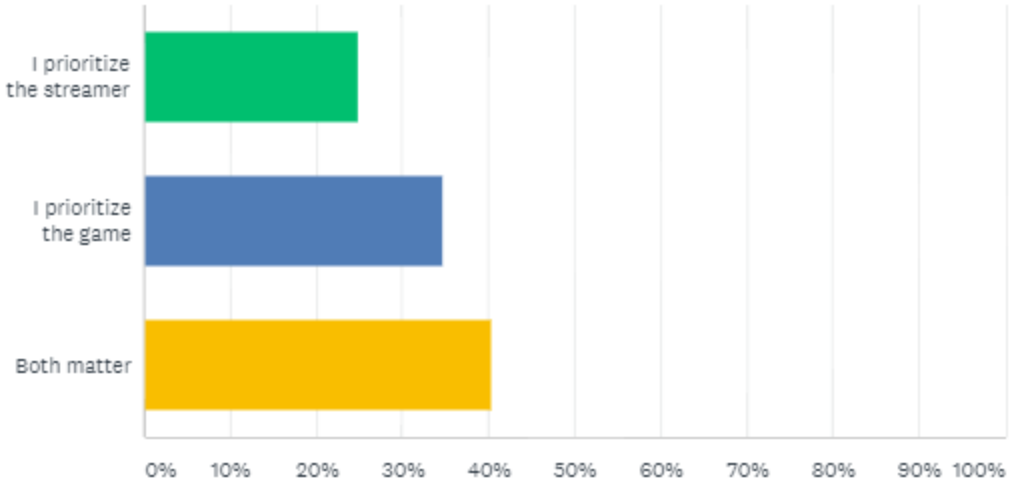

Figure 21. Respondents answers to: Do you watch the streamer or the game on Twitch?

Around 40% of the respondents answered that both the game and streamer mattered when deciding what to watch, followed by 34% who prioritized the game. This means although the efforts put in by the streamers to create content for the audiences, a large third prioritize the game still. This confirms what we have been saying before as the popularity of a channel results in the input of the game publishers through their games, the streamers through their built audiovisual content, and the viewers priorities when selecting what to watch.

Moreover, when previously discussing the streamers' effect on drawing the audiences to their channels, I mentioned that timing was an important gatekeeping base used by the streamers to address their audiences and set up streaming schedules to determine when they go live and when they can reach their highest peaks of audience while streaming. However, when asking the audience if their watching times of streams on Twitch were dependent on the streamers' schedules, more than 70% of the participants answered that their watching times were independent of the streamers' schedules. The timing gatekeeping base is thus used as well by the audience as the viewers seem to be independent in their choices of when to watch Twitch as

well. This confirms the active role of the audience who rather than being subject to the conditions of the content providers, are independent in their choice of media consumption.

In addition to selection, a gatekeeping base that goes in pair with the selection is **disregard**. This base concerns primarily the audience as it is exposed to all kinds of different streams and live broadcasts to choose from and thus selecting what to watch automatically results in disregarding what not to watch. This also generates interesting insights as to how the audience plays an active role in consuming the media content rather than a passive one. For instance, one of the promotion tools streamers use to popularize their channels and fellow streamers' channels is channeling under the form of hosting other streams on their channels when they go offline. However, this is only valid if the viewers stick around to watch the hosted channel. When asked how likely they are to stay and watch a hosted channel when watching a streamer who goes offline, viewers answered as follow:

ANSWER CHOICES	RESPONSES	
Very likely	0.71%	1
Likely	9.22%	13
Neutral	16.31%	23
Unlikely	33.33%	47
Very unlikely	40.43%	57
TOTAL		141

Table 4. Respondents answers to: How likely are you to watch a hosted channel on the stream of one of the streamer you watch?

The clear majority, roughly 74%, said they were unlikely to do that, supporting that there is a high chance for hosted channels to be disregarded by the audience, and thus challenging its effectiveness when used by the streamers. This shows that the audience is not passively subject to the other gatekeepers' strategies, rather the audience is active in choosing what to consume as media content on Twitch and how to consume it. It also means that the streamers hosting strategy

has little effect on promoting other channels. The power of the streamers decreases in that sense in favor of the viewers and their influence over the streams' popularity.

Another question asked in the survey to prove the disregard base the audience was using involved asking them how likely they were to watch the featured channels hosted on the home page of Twitch (a display base used by Twitch). 63% of the viewers were unlikely to pay attention to what was featured on the home page when using Twitch. This shows how the audience relies on selection and disregard to choose what to watch, resulting in the popularity of some streamers at the expense of others. The power of the audience ends up rising at the expense of the failure of strategies implemented by Twitch and the other streamers.

Further throughout the questionnaire, it appeared that channeling was also a base widely used by the viewers in the circulation of the streams. Viewers not only watch the streams, but they also share them and circulate them online and through their own social networks. When asked how they discover streams to watch on Twitch, viewers answered as follow:

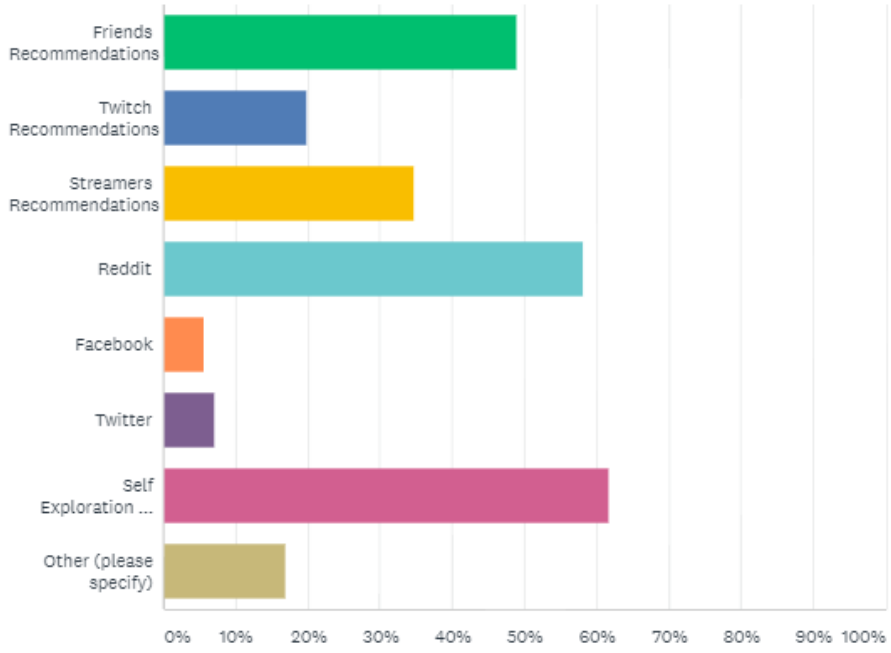

Figure 22. Respondents answers to: How do you discover new streams to watch on Twitch.tv

Although self-exploration is the highest as an independent behavior, social networks combined with the Friends recommendations make for most of the sources of streams to watch for the viewers, especially through reddit, a social network made of posts by the community for the community. Similarly, 50% of the viewers said they were likely to check out streams recommended to them by friends and people from their social networks, making channeling a gatekeeping base widely used in this community for viewers to advertise in a way the streams they watch and like making them more popular. It also appears the audience is very independent in their choice of consumption as self-exploration is the top result of streams discovery. In that sense, the viewers gain in power as it becomes more difficult for the institutions to influence them, and draw them to their content. Rather, it seems their social networks are more influential in attracting them to new media content on Twitch. The power is once again negotiated between the audience, the streamers, and the institutions in order for streams to be popular.

This is like the marketing concept of electronic word of mouth (eWoM) which considers the consumers as players of an active part in raising the awareness of what they come across to other potential consumers. This also happens such way that the audience attracts the audience, using the community and fellow viewers as a reference in selecting what to watch themselves. Viewers are incited to look into what everyone else is watching. In that sense, around 40% of the participants reported they are likely to check out the popular streams that appear in the top 10 most viewed streams, while only 24% said they were likely to go beyond that top 10 and discover less popular streams. This creates a growing audience size for popular streams, meaning popular streams get even more popular because of their already established popularity.

Finally, whenever talking about live streams in Twitch, participation is key as it is the main tool for the audience to interact with the streamer and be engaged with the streamer's

activities. However, although Twitch present a streaming model that relies heavily on the chat window and how the streamers interact with their audiences, participation is quite the controversy in this case. There seems to be a negative correlation between the number of participants present watching the stream, and the involvement of the viewers in using the chat. The lower the viewers, the more these viewers will talk and address the streamer with the chat toolbox; on the opposite, the higher the viewers of a channel, the lower the number of these viewers who will use the chat. Participants were prompted what represents a barrier to their participation in the chat of a live stream and they responded as follow:

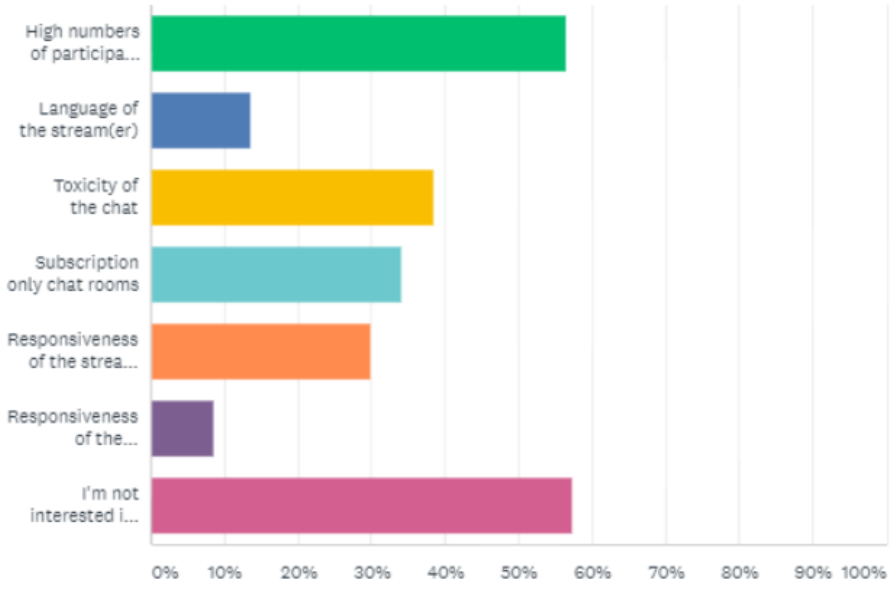

Figure 23. Respondents answers to: What affects your non-participation in the chat?

Most of the viewers responded they simply were not interested in interacting in the chat meaning they only want to watch the stream without further interaction. However, those who want to participate face several barriers to participation of which the high number of participants in the chat seems to be the most important. As more and more people interact in the chat it becomes difficult for an individual to have his or her message read and answered by the streamer thus creating the negative correlation mentioned before. **Participation** seems to be a gatekeeping

base that could keep viewers away from interacting with streamers, and maybe even look for streams with less audiences to have higher chances at participation with streamers who have more visibility over their chat windows and their audiences.

This sums the audience chapter which I conclude by listing the gatekeeping bases used by the audience itself under the form of selection, disregard, channeling, timing, and participation. Through these bases, the audience can influence not only the popularity of the streams, but directly other viewers and redirecting them towards other channels and streams making the audience a gatekeeper with a heavy influence as well on the popularity of the channels. Next, I will summarize all the gatekeeping bases used by the identified gatekeepers and discuss the findings and theoretical contributions I came up with while conducting my research and analyzing my data.

Conclusion

Discussion and implications

While reporting the findings, the active role of the audience in the Twitch network was established alongside the interactions happening between the audience and the three other gatekeepers. The findings answered the research question as to how do gatekeepers influence the popularity of the live streams in Twitch. This was accomplished by combining a netnography and a questionnaire to determine the different bases used by each gatekeeper to influence the popularity of the channels. However, throughout the analysis, it was concluded that the gatekeeping bases were tools for the gatekeepers to interact with one another rather than single processes that increase or decrease the view count of the channels.

In other words, the popularity of the streams on Twitch is the outcome of a negotiated interactions between all gatekeepers present in the network. By using several and different gatekeeping bases, each gatekeeper involved positions itself in the network and thus creates dynamics between one another that result in a stream being popular or not. The influence exercised by the gatekeepers is intended towards the audience; however, the results showed that the audience was independent in its decision making to some extent, making it hard to measure the weight of influence in the network.

The popularity of a stream is mainly established by what game is being played regarding the interests of the audience, who is streaming it, and more importantly when it is being streamed. The audience tends to tune in to watch what they want when they want it, thus providing Twitch with a constant influx of viewers worldwide.

Practically speaking, these findings question the effectiveness of the Twitch strategies to draw audiences to certain streams, as the audience has proven to be neutrally affected by the hosting strategies of both the streamers and Twitch. It remains difficult to prove how many

people are watching a specific stream, and how many have just the stream pages opened without really watching them; just like traditional TV where it is hard to measure if people are watching a TV show or if the channel is on without the viewers being in front of the TV.

The findings confirm the theory established in my theoretical framework showing that gatekeeping is exercised in a multidirectional way in a networked environment rather than a unilateral one. Moreover, the findings go along with the established user generated content theory and participatory culture with a twist: the content is not really "user-generated" as the streamers rely on the game created by the game publishers to create content, it becomes more a combination of user-generated and provider-facilitated content. This comes as a new form of UGC that could enhance the theoretical framework itself.

The analysis showed that the success of a live broadcast was the result of a communal effort. For a stream to become popular it requires continuous efforts by the community that plays a central role in the circulation of the digital content online: watching a stream is just as important as sharing and promoting it. Hence, the popularity and success of Twitch as a platform is the product of a participatory effort by the institutions concerned and the community involved.

Moreover, the findings come to challenge one of the five assumptions of the theoretical framework used. In the multidirectional gatekeeping model presented by Chinfook and Simmons, the fifth assumption was that web platforms are not gatekeepers themselves: they offer a platform for interaction, but rely on the user generated content, empowering the users and influencers who become gatekeepers themselves in this model. While reporting the findings, it appeared that Twitch as an institution and a platform provider was heavily involved in using gatekeeping bases to its benefit as well. By regulating the platform and deciding of what can be streamed and what not, Twitch plays a regulatory role to which everyone streaming or watching

must comply. Moreover, Twitch engages in promoting and recommending streams over others which disrupts the supposedly equal chances of every streamer to success. This challenges the assumption that the platform provider does not act as a gatekeeper in this specific case. Twitch should take into consideration the behavior of the audiences to better redirect them towards the intended content, as it seems the "featured channel" and hosting options are not as viable as they seem to be, nor for the streams displayed, nor for Twitch.

Caveats, limitations, and future research

The major limitation I would like to discuss first is one related to the measure of power and influence in the studied network. It is hard to measure power in a multidirectional network as the hierarchy no longer exists and rather the streams popularity is defined by a set of interactions between all the gatekeepers. The study has shown the colliding interests of all the gatekeepers and how they affect the streams. However, there is no set framework that would make it possible to rank gatekeepers based on power, because that would be trying to evaluate a multidirectional model based on the norms of a unidirectional one.

Throughout the research, another three major areas of improvement were identified: uniqueness of the case, data types, and data collection. First, because Twitch is a unique platform its findings are only relevant to Twitch itself and hard to generalize to similar service providers on the web. Similar live streaming of video game platforms exist like Azubu.tv or Youtube Gaming but these are still in their early stages, and Twitch is by far the most popular and the reference when it comes to video game streaming. Further research could focus on comparing the gatekeeping network of Twitch and the dynamics of the other similar platforms. This would help confirm the findings and establish the live streaming platforms as a cluster for which the findings can then be generalized.

Second, the study involved observing the behavior of the following gatekeepers on Twitch.tv: game publishers, Twitch, streamers, and viewers. Using a netnography combined with a questionnaire provided enough insights to establish the gatekeeping bases used by each and prove how they all interact with one another. However, a more qualitative approach could generate deeper insights on each gatekeeper if studied separately on the model. Another suggestion for future research would be to study the gatekeepers in pairs and how they interact with one another rather than how they each affect the streams and their popularity. Understanding their one on one gatekeeping dynamics would establish a clearer view on how the gatekeeping network itself is set up.

Finally, while collecting the questionnaire answers, there was a 70% completion rate. This shows the unavailability or unwillingness of some participants to participate in a questionnaire. Moreover, it was noticed that in most of the likert questions, there was always around 20% of participants answering “neutral” which was hard to generate insights from as it could be interpreted both ways. If a similar questionnaire excluding the neutral choice in the likert questions would be redistributed it might collect more meaningful answers with higher percentages to confirm or reject the findings.

Final thoughts

This thesis is an attempt to understanding how the gatekeeping network in Twitch.tv is established in a first time, then how each gatekeeper engages in influencing the popularity of the live streams on the platform. It was concluded that the gatekeepers use several gatekeeping bases; however, the resulting popularity of the streams is the product of a negotiated gatekeeping dynamics between all stakeholders involved. This comes to confirm what the gatekeeping networked theory already established with a few contributions and challenges to its assumptions.

The findings provide insightful results that are of importance to the institutions, networked individuals, and everyday individuals using Twitch. By exploring the viewers' behavior and how they engage in promoting certain streams, both the streamers and game publishers can work together in providing more attractive streams and providing more engaging tools for participation to the audience. This will help growing the Twitch network in terms of quality of the content and audience size, thus attracting more capital and investments in the platform under the form of advertisement, sponsorships, or an increasing pool of live streams for content.

Appendix A. Questionnaire

Consent Form

The purpose of this research project is to investigate how the viewers can affect the popularity of live streams on Twitch. This is a research project being conducted by Taha Sabia at The University of Tampere.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or if you withdraw from participating at any time, you will not be penalized.

The procedure involves filling an online survey that will take approximately 5 minutes. Your responses will be confidential and we do not collect identifying information such as your name, email address or IP address. The survey questions will be about the way you use Twitch as a viewer.

We will do our best to keep your information confidential. All data is stored in a password protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only and may be shared with University of Tampere representatives.

ELECTRONIC CONSENT: Please select your choice below.

Clicking on the "agree" button below indicates that:

• you have ready the above information

• you voluntarily agree to participate

• you are at least 18 years of age

If you do not wish to participate in the research study, please decline participation by clicking on the "disagree" button.

○ agree

○ disagree

How long have you been using the Twitch.tv platform?

- Less than 1 year
- 1 – 3 years
- 3 – 5 years
- Since it launched

How much time do you spend weekly watching stream(er)s on Twitch.tv?

- Less than 3h
- 3 – 7 hours
- More than 7 hours

What type of game stream(er)s do you watch on Twitch.tv?

- MOBA (League of legends, Dota 2…)
- FPS (CS:GO, Overwatch, Player Unknow Battleground…)
- Real Time Strategy (Hearthstone, Starcraft 2…)
- Others (Fifa, Rocket League, IRL, Creative, World of Warcraft…)

How many Stream(er)s are you following/subscribed to?

- Choose a number

Do you usually watch the games that interest you, or do you watch the stream(er)s you like independently of what they are playing?

- I prioritize the streamer
- I prioritize the game
- Both matter

Are your watching times dependent or independent of the streaming schedules of your favorite stream(er)s and eSports events?

- Dependent
- Independent
- Both

Do you usually watch the same stream(er)s every time you use twitch, or do you tend explore other stream(er)s as well?

- I only watch my favorite stream(er)s every time
- I explore other stream(er)s as well

How likely are you to watch a favorite streamer of yours if they are to play a different game they usually do not play?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to stay and watch a channel hosted by a stream(er)s when he goes offline?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to watch channels hosted/sponsored on the home page of Twitch?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to check out new games that appear in the top 10 streamed games?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to participate in the chat when watching a stream?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

What factors affect your non-participation in the chat of the stream(er)s you watch?

- High number of participants in the chat
- Language of the stream
- The nature of the stream (eSport event, amateur stream, speedrun…)
- Toxicity of the chat
- Sub-only chat rooms
- Responsiveness of the streamer
- Responsiveness of the moderators

How likely are you to subscribe and/or donate to stream(er)s you watch?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to check out streams that appear in the top 10 streams with the most viewers?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to check out streams that do **NOT** appear in the top 10 streams with the most viewers?

- Very unlikely

- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to check out streams with small audiences?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

When watching Twitch.tv, do you usually watch only one stream, of watch several ones?

- One stream
- Several stream(er)s

How important is a stream(er)'s popularity to you when deciding what stream(er)s to watch?

- Very Unlikely
- unlikely
- neutral
- likely
- very likely

How do you discover new stream(er)s on Twitch?

- Friends Recommendations
- Twitch Recommendations
- Streamers Recommendations

- Reddit
- Facebook
- Twitter
- Self-exploration on Twitch
- Other (please specify)

How likely are you to recommend channels you watch and/or discover to your friends/social network (Facebook, Twitter, Reddit…)?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

How likely are you to check out streaming channels recommended to you by friends/social network (Facebook, Twitter, Reddit…)?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

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